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ABSTRACT

A study undertaken by a fourteen member consortium representing five schools each of medicine, dentistry, and nursing had as its objectives to: (1) generate, assess and collectively approve a comprehensive list of teaching skills and strategies that approximates observed and representative behaviors in clinical sciences teaching in medicine, dentistry and nursing: (2) conduct a national state-of-the-art assessment of clinical teaching through a national survey of dental, medical and nursing schools: (3) develop a real model description and an ideal model for each of the disciplines: (4) develop strategies for the resolution of discrepancies in these models, i.e., formulate a method(s) for the institutions to increase their faculties in clinical teaching: and (5) recommend a strategy for the institutions to improve clinical teaching. The procedures and phases developed to accomplish the study's goals are presented. Appendices contain statistical data and report on areas such as: survey return data: item means and standard deviations: summary of description data: and factor analysis statistics. A monograph, "The Comprehensive Report," will follow this report and contain a summary of the findings, conclusions, and recommendations. (LC)

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EXECUTIVE SUMMARY OF THE
FINAL REPORT

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

Contract No. N01-LM-5-4746

August 31, 1978

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KKK. Factor Analyses Statistics: Nursing

LLL. Item Means and Standard Deviations: Nursing

MMM. Multivariate Results for Skill Grouping by Stratification Variables: Nursing

NNN. Prioritization by Items: Nursing

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INTRODUCTION

TOWARD THE IMPROVEMENT OF CLINICAL INSTRUCTION

Despite the fact that clinical education has been long recognized as both a significant and essential component of professional education in the health sciences, relatively few attempts have been made to examine the instructional skills felt critical to the teaching and learning within this often unique environment, and to systematically, from a needs assessment approach, recommend instructional enhancement programs for improving the instructional effectiveness of those charged with teaching responsibilities (1-8). While of good quality, too often, educational research has been reduced to factorial descriptions of the teaching act in the hope of devising the ultimate teacher evaluation systems which largely consist of statistical feedback on what has been done well and not so well, with little concern for how one might do better.

Unlike the classroom setting utilized in pre-clinical portions of curriculum, the clinical setting has been relatively void of pertinent study exploring its educational opportunities and instructional potential. At best, teachers have made valid attempts to teach as they were taught, while still others have employed techniques commonly associated with traditional didactic lecturing. Coupled with a general lack of formal training in the science of instruction, quite the same as his pre-clinical counterpart, the clinical instructor is subject to irregular and often demands of patient care responsibility and not uncommonly is called upon to perform an instructional role as a part of his or her often less than full-time, often volunteer, university or hospital appointment.

Training institutions have often limited their efforts to the improvement of instruction by relying almost entirely upon written student assessments of the quality of teaching, which are at best, utilized to re-assign instructional responsibility or document teaching activity in fulfillment of promotional requirements. Most often they have been left with little more than the knowledge that the ability to transfer knowledge, impart enthusiasm and the desire to learn, and the ability to assess learning outcomes seems to vary from superb to poor. This report describes three parallel studies aimed at the improvement of clinical instruction skill and uses as its data base, the collective judgements of students, faculty, and experts charged with the improvement of educational programs in schools of Medicine, Dentistry, and Nursing throughout the United States.

THE STUDY PLAN

In order to gather and synthesize broad based information for the design and implementation of clinical teaching improvement programs aimed at the enhancement of specific, and clearly defined instructional skills and strategies in Medicine, Dentistry, and Nursing, a consortium based study under the auspices of the National Library of Medicine, and entitled, "A Comprehensive and Systematic Assessment of Clinical Teaching Skills and Strategies", was awarded to The Ohio State University, with subcontracts to The Medical College of Virginia, The State University of New York at Buffalo, The University of Alabama, and The University of Washington.

The intent of this study effort was to establish and employ a consortium model in order to:

1. Collectively generate and review representative skills and strategies of effective clinical instruction in Medicine, Dentistry, and Nursing.
2. Describe through survey techniques, a "State of the Art" of clinical teaching skills.
3. Describe through discrepancy model formulation, perceived differences in actual (observed) and ideal (expected) skill utilization.
4. Provide a translation of skill discrepancies into prioritized instructional objectives intended for designing instructional materials.
5. Provide instructional listings of activities, by objectives, useful in resolving skill discrepancies.
6. Provide alternate instructional strategies through which skill resolvement can be accomplished.
7. Provide a description of an optional plan for resolving skill discrepancies.

This document provides the reader with an "Executive Summary of the Final Report;" a description of the methodological approach and analytical procedures employed.

EXECUTIVE SUMMARY OF THE FINAL REPORT

PURPOSE

The study focused around a fourteen member consortium representing five schools each of Medicine, Dentistry, and Nursing from five independent institutions.

The study had five major goals. They were:

1) To generate, assess and collectively approve a comprehensive listing of teaching skills and strategies that represents an approximation of observed and representative behaviors in determining the state of the art in clinical sciences teaching in Medicine, Dentistry and Nursing.
2) To conduct a national assessment of the state of the art of clinical teaching through a national survey of Dental, Medical and Nursing schools.
3) To develop a real model description for each of the three disciplines and to develop an ideal model. The difference between the "real" and "ideal" would result in a discrepancy model.
4) To develop strategies for the resolution of the discrepancies; i.e., to formulate a method(s) which can be utilized by institutions to increase their faculties' skills in clinical teaching for each of the three disciplines.

5) To recommend a strategy which would best be utilized by the institutions to increase their faculty's skills in clinical teaching.

The response to these goals involved six phases including the establishment of a consortium representative of the three professions. The consortium included five institutions wherein each of the three disciplines were represented. In order to maintain regional distribution the following institutions were asked to participate:

The University of Alabama at Birmingham

The State University of New York at Buffalo

The Ohio State University

The Virginia Commonwealth University, MCV

The University of Washington, Seattle

All but one of the institutions included the three professions. Only Medicine and Dentistry were represented at the University of Washington, Seattle. The final consortium consisted of fourteen individuals. These individuals were chosen according to the following criteria: (1) capacity to deliver the necessary services, (2) knowledge, interest, and experience in managing teaching skills and behaviors related to clinical teaching, (3) knowledge, interest, and experience in observing, reporting and writing behavioral teaching objectives, and (4) ongoing experience in evaluating clinical skills teaching.

In order to maintain liaison with the institutions, one person at each institution was identified and asked to serve on a steering committee for the consortium. The purpose of this steering committee was to:

1) provide input to the project staff on decisions related to development of study materials;
2) aid the project staff in setting the agenda for the consortium sessions;
3) review preliminary data resulting from work of the consortium;
4) respond to specific procedures involved in data gathering, sampling design, and pilot testing; and
5) coordinate the efforts of their colleagues at their institutions in order to insure commonality and consistency in data acquisition.

The consortium was charged with the following responsibilities:

1) generating, from direct observation and student-generated Critical Incident reports, descriptions of clinical teaching behaviors;
2) collectively generating a discipline-specific listing of clinical teaching behaviors;
3) approving the methodology for a national assessment of the "state of the art" in clinical teaching behaviors;
4) approving the methodology utilized to derive the clinical teaching discrepancy model;
5) identifying and approving through consensus those clinical teaching behaviors demanding primary attention;

6) converting primary discrepant clinical behaviors into performance objectives; ,

7) independently and collectively generating potential activities to be employed in attaining the discrepant performance objectives for the discrepant clinical behaviors;

8) cataloguing the objectives and activities according to primary and secondary teaching strategies which could be utilized in attaining the performance objectives;

9) developing an "optimal" protocol of teaching strategies for enhancing the clinical teaching of faculties in the three professions; and

10) accomplishing the aforementioned objectives in the timeframes developed.

PROCEDURES

In order to meet the five goals of the project, six major phases were developed. They were:

I. Organization, Planning, and Survey Development
II. State of the Art
III. Development of the Discrepancy Model
IV. Development of Instructional Objectives
V. Development of Instructional Strategies
VI. Development of the "Optimal Plan"

Each of the six phases involved a series of specific procedures designed to move each phase forward. For purposes of discussion each will be treated in appropriate sequence.

Phase I - Organization, Planning, and Survey Development

As mentioned previously, five institutions, i.e., fourteen individuals, five in each of Medicine and Dentistry and four individuals representing Nursing, constituted the consortium. The project staff's responsibility was divided according to management principles of administration, planning and evaluation,which served to assist and facilitate the consortium's work effort. In this way all elements of the project would be attended to by one principal. Decisions concerning survey and data analysis were attended to collectively by the project staff.

Once the consortium was identified, a planning meeting of the steering committee was held. The objectives of this meeting were threefold: (1) to become acquainted with the other liaison representatives, (2) to better understand the scope of the project, and (3) to develop the agenda for the first consortium meeting.

THE DELPHI APPROACH

An objective of phase one, aside from organization and planning, was the development of the survey instrument. To achieve this objective, a modified Delphi approach was selected. The Delphi technique is a method of eliciting and refining group judgments. The rationale for the procedures is primarily the adage "two heads are better than one," where the issue is one where exact knowledge is not available (Dalkey, 1969). The procedures have three features: (1) Anonymity in responding - opinions are obtained via formal questionnaire, rating form, checklist or in some cases anecdotally; (2) interaction and controlled feedback - interaction is effected by a series of exercises involving one or more interactions with carefully controlled feedback between rounds; (3) statistical group response - the group response is defined as an appropriate aggregate of individual opinions on the final round. These features are designed to minimize the biasing effects of dominant participants, irrelevant communications and of group pressures toward conformity. The procedure also permits the development of consensus across distance and within a protracted period of time.

The procedure is, above all, a rapid and relatively efficient way to utilize the best thinking of a group of knowledgeable people. It involves, in general, less effort for a participant to respond to a well-designed questionnaire than to participate in a conference or to write a paper. A Delphi which is properly managed can be highly motivating for the participants. The feedback is mutually self-respecting. The use of systematic procedures lends an air of objectivity to the outcomes that may or may not be spurious, but which is at least reassuring.

To the project at hand, the Delphi procedures were seen as vehicles to employ sustained effort in attaining group consensus on descriptors of clinical teaching. In order to initiate the Delphi it was first necessary to develop the instrument to which they would respond. Two procedures were established to ascertain the "state of the art" in clinical teaching: Direct Observation and the Critical Incidents Technique.

1) Direct Observation - It is the intent of the project to identify and record, without bias, specific teaching behaviors as

they occur in or relate to clinical procedures, attitudes or other behaviors. Institutional representatives were instructed on standardized observational techniques. This was accomplished at the first steering committee meeting. The representatives discussed observation techniques and practiced recording observed behaviors.

Upon return to their institutions, participants were asked to meet with the other consortium members in order to standardize the observational techniques. Direct observations and recording of clinical teaching began immediately after observer training.

An Observation Response Form was developed (Appendix A). The form requested that the observer record the following data: age, sex, academic rank, years in teaching, level of student, and specialty area or discipline of the clinical teacher. The observers were also asked to identify and choose three different locales or settings from which observations were made. The areas targeted for direct observation were:

Medicine - grand rounds, patient rounds, one-on-one in corridor, seminar, formal lecture, oral examination, emergency room, specialty rounds, etc.

Dentistry - General Clinic, emergency service, screening clinic, diagnostic clinic, specialty clinic, hospital rounds, extramural rotation, radiology service, outpatient clinic, etc.

Nursing - Patient bedside, clinic conference, patient rounds, out-patient clinic, community agency, mental health center, etc.

These areas were identified by the steering committee and serve as guides for the observers.

It was felt that as wide a range of representative clinic teaching behaviors as possible be observed. By choosing three sites as a primary focus, concerted efforts could be better directed. The observers indicated their preference of locale/setting. In turn, the staff requested other settings if over-suscription occurred.

The observers were also asked to vary the time of their observation(s). To accomplish this the observers were asked to complete the following observation checklist.

NAME	SETTING	M	T	W	Th	F	M	T	W	Th	F	M	T	W	Th	F

The checklist permitted the observers to guage their time while insuring some variability in the clinical instructors and teaching site.

The information requested from direct observation was: (1) a listing of specific behaviors as viewed by the observer which were not to be interpreted and were to be written as quickly and succinctly as possible; (2) a description of the setting which required the observer to carefully describe the environment, teaching tools used, and number of students; (3) their impression of the observation. The observers were asked to make some judgments about what they saw. This information would not be used in constructing the inventory.

2) Critical Incident Technique (CIT) - In order to obtain as broad a statement on clinical teaching in Medicine, Dentistry and Nursing, the CIT was used. This technique was first reported by Flannagan in 1954, and can be traced back to the late 1800's. It is a set of procedures for collecting direct observations of heman behavior in such a way as to facilitate their potential usefulness in solving practical problems. By an "incident" is meant any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act. Flannagan (1954) writes: "To be critical an incident must occur in a situation when the purpose or intent of the act seems fairly clear to the observer and where its consistencies are sufficiently definite to leave little doubt concerning its effects." The outline for an effective Critical Incident reporting form includes: (1) an introductory statement usually pertaining to the research nature of the form, (2) delimitation of the situation to

be responded to, (3) the specification of detail in the response. The Critical Incident report can be present-oriented or based on a prior situation, event or experience.

The Critical Incident Technique employed in this (Appendix B) study called for the recollection of a most effective clinical teacher, who they as students had experienced. Students involved were currently enrolled students in Medicine, Dentistry, and Nursing at the Consortium representatives' schools. It asked the students to describe: (1) the setting in which this event occurred, (2) what led up to the event, and (3) precisely what the teacher did or said, and express how the event made him/her feel.

Development of the Survey Item Pool From CIT

The Delphi procedures included the development of an instrument for the group to respond to. To accomplish this the following steps were employed.

1) Preparation of Listing - All Direct Observations and Critical Incidents report forms were catalogued by setting and categorized according to the three professions. To facilitate that effort, the reporting forms were color-coded: green - Medicine, blue - Dentistry, white - Nursing. The project staff then transposed all statements to three master listings - one each for Medicine, Dentistry and Nursing. After reviewing the listing and eliminating obvious duplications, the staff prepared

the final listing. Elimination of duplicates was done only on agreement by the entire staff. Language, i.e., word choice and syntax, was unaltered unless it was seen to be nonsensical. The edited listing was compiled and prepared for the first round mailing to the consortium members.

2) Instructions to Consortium - The consortium members received edited lists for their disciplines. They were asked to review the lists, make editorial revisions, rewrite them so they were in parallel form following the antecedent, "Be able to.....", and add to the listing if they felt any behavior to be missing. They were also asked to eliminate and/or collapse statements which were interpreted as being redundant.

3) Collation of Listings - The listings were returned to the project staff within three weeks. Responses were merged into three discipline-specific listings. The final determination of teaching behavior listings became the agenda for the first consortium meeting held in Columbus, Ohio in November, 1975.

4) The Consortium Meeting - The project staff prepared separate listings by discipline in order for the consortium to meet and resolve differences pertaining to the listings. Each participant received, in advance of the first meeting, the results of the first pass. In this way, it was felt that they would be prepared to negotiate the item content of the survey instrument. Working within discipline-specific groupings the participants "hammered" out the final form. The

specific directions they received for this task were simply they were not to remove, add to, or markedly alter any statements unless agreed to by group consensus.

Meeting in Columbus, the groups were provided with meals, materials, secretarial assistance and a time-frame of 24 hours in which to accomplish the task. Groups were free to schedule work time as they chose.

Within this environment the participants worked and evolved into a group of highly motivated individuals. Listings were subsequently typed and redistributed to each group for further review. At the close of the 24 hour period, the final product emerged. In retrospect, the time spent in this way was most productive. It reinforces the hypothesis that if a number of reasonable people work together to do a reasonable task, a reasonable product will come from it. The peripheral ingredients of support and structure were facilitative to the process.

Modifying the Delphi technique, i.e., the second review was done in person, helped to validate the comprehensive item listings. The participants had the opportunity to confront one another's perceptions. The project staff reports no evidence of dominance, group pressure, and/or irrelevant communication. These listings were to provide a baseline statement for the "state of the art" in clinical teaching in Medicine, Dentistry, and Nursing.

Synthesized statement listings provided the item pool for the National Survey of Clinical Teaching. Final review, prior to validating the pilot survey items, was coordinated by the project staff. However, validation of the pilot survey was conducted at three of the five consortium institutions: namely, The Ohio State University, The Medical College of Virginia (Virginia Commonwealth University),and The University of Alabama in Birmingham, in order to assess internal item consistency and presentation format.

The second item on the agenda during the consortium meeting was the development of the survey sampling methodology. Copies of the projected survey form and survey response format were among the materials sent to the groups prior to the November meeting. Two specific objectives were met regarding the "state of the art" document and the subsequent discrepancy model.

The Survey Plan

Direct Observation and Critical Incident Technique provided the project staff with a good first approximation of clinical teaching in Medicine, Nursing, and Dentistry. The credibility of this statement is born from the fact that the consortium did an excellent job identifying the statement listings that would be used in developing the National Survey as a measure of the "state of the art."

To facilitate the gathering of broad-based need assessment data, i.e., data necessary to describe the "state of the art" in clinical teaching skills and to identify differences perceived between "state of the art" (actual or observed) clinical teaching skills and "ideal" (model or expected) skill utilization, a mailed survey technique was developed and employed. Serving as a basis for discrepancy model formation, the survey technique allowed the study team to consider the various constraints represented by faculty, students, and the clinical environment in providing a description or set of expectations of faculty performance. Further, the survey provided a basis for the design of alternate plans and instructional activities for addressing the most discrepant skill behaviors.

As depicted in Figures 1 and 2, the survey technique would allow for a translation of faculty generated skill expectations into instructional objectives to be used as the basis for developing instructional strategies or plans and materials targeted specifically to the perceived needs of clinical faculty.

Item Development and Refinement

As stated earlier, items collected through Direct Observation and Critical Incident Techniques resulted in the assembly of a rough pilot listing of behavioral statements for consortium review. Based on consortium review, three levels of item-statements emerged. Priority A level items represented observed skills, in behavioral terms, as collected by school representatives in the clinical settings. As baseline statements, they formed "state of the art" behaviors and were reviewed by each discipline area for (1) duplication, (2) wording clarity, and (3) categorization where possible, into skill component areas. No deletion of items was permitted. Priority B level items represented the critical incident statements of teaching behaviors that health science students felt were characteristic of good instructional practice. As with Priority A level items, deletion of item statements was possible only when duplication occurred.

FIGURE 1

UTILIZATION OF THE SURVEY TECHNIQUE

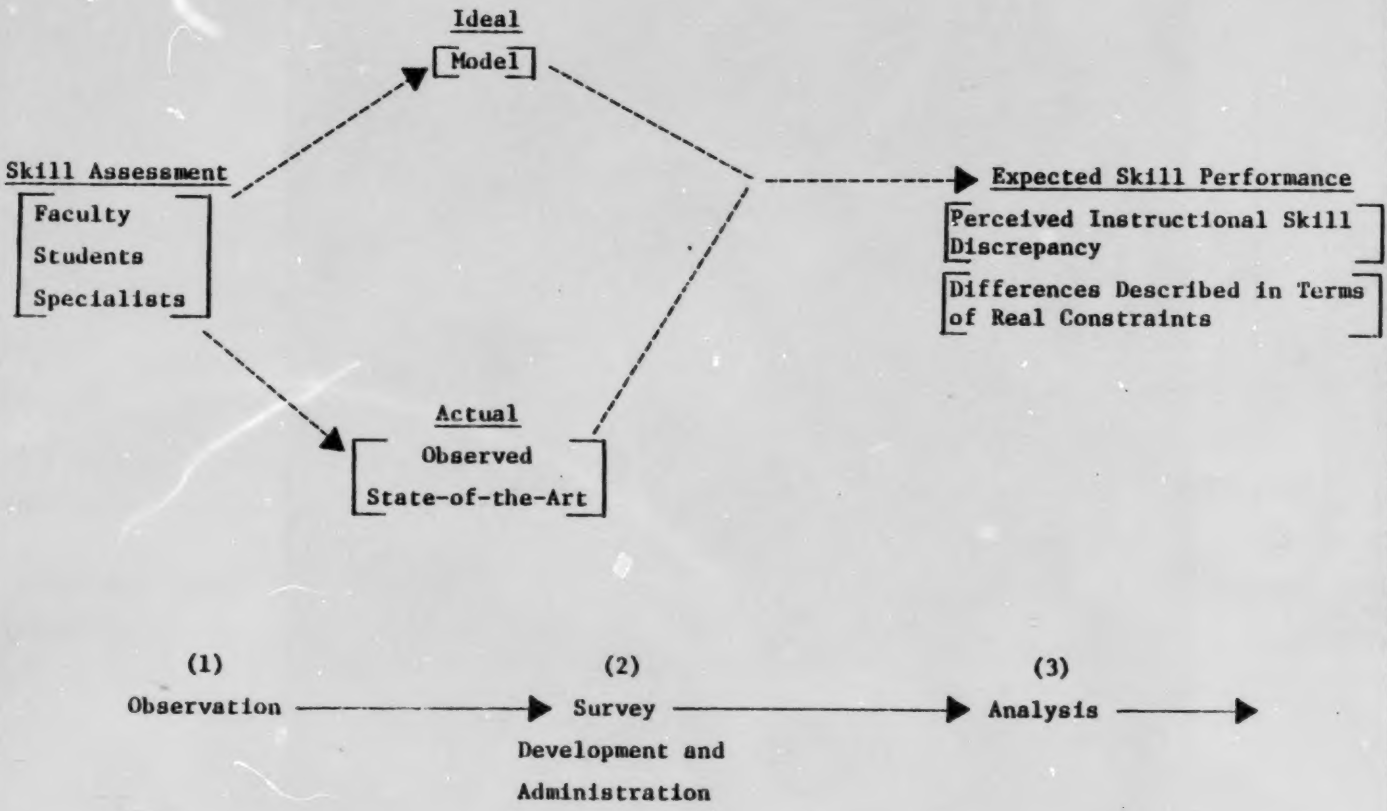
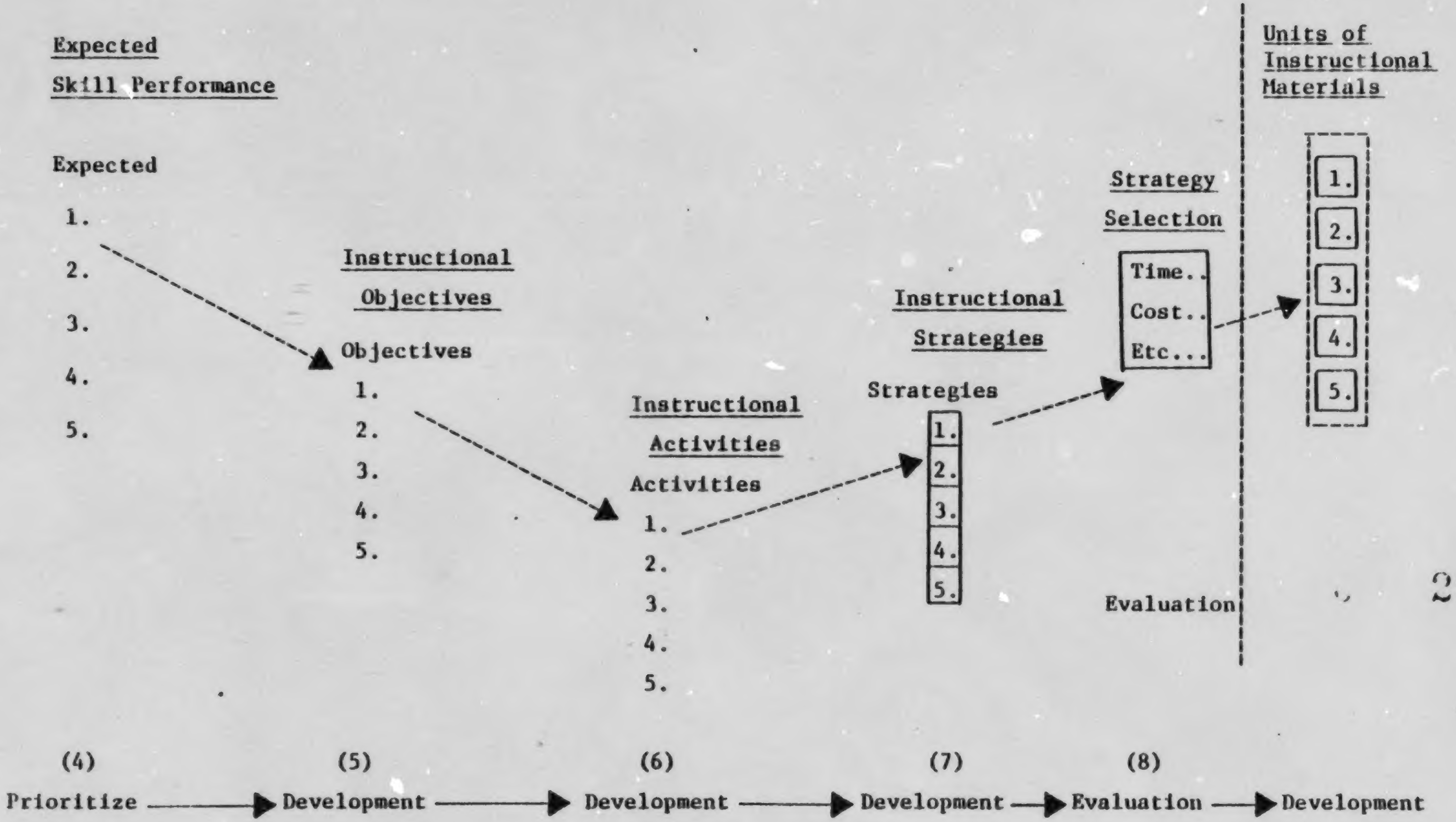

Ideal
Model
Skill Assessment
Faculty
Students
Specialists
Actual
Observed
State-of-the-Art
Expected Skill Performance
Perceived Instructional Skill Discrepancy
Differences Described in Terms of Real Constraints
(1)
Observation
(2)
Survey Development and Administration
(3)
Analysis

FIGURE 2

DEVELOPMENT OF INSTRUCTIONAL MATERIALS


Expected Skill Performance
Expected
1.
2.
3.
4.
5.
Instructional Objectives
Objectives
1.
2.
3.
4.
5.
Instructional Activities
Activities
1.
2.
3.
4.
5.
Instructional Strategies
Strategies
1.
2.
3.
4.
5.
Strategy Selection
Time..
Cost..
Etc...
Evaluation
Units of Instructional Materials
1.
2.
3.
4.
5.
(4) Prioritize
(5) Development
(6) Development
(7) Development
(8) Evaluation
Development

Rewording for clarification and possible categorization of skills was provided within each discipline group. Priority C level items included additive statements generated upon the collective review of items within each discipline group: These statements included those behavioral skills felt critical to the teaching learning process, but for sampling reasons, apparently not reported through either the Observational or Critical Incident Techniques. A modified nominal group exercise led by an appointed leader within each discipline facilitated the development of additional item inclusions. No attempt was made to provide for the complete universe of instructional behaviors which might be observable in the normal (usual) delivery of instruction.

As an aid for item review, each discipline group was instructed to review possibilities which might exist in grouping the universe of prepared statements into logical and manageable sub-category scales. Through a review of existent categorical schemes, a 4-scale model for item categorization was developed and applied to each discipline's listing of observed behavioral statements. As outlined in Figure 3, and as defined by key words within each behavioral set of skills, a final review and refinement of item statements within each scale was made by consortium members within each discipline.

Item Response Format

A survey response format was designed to gather perceptions of the "actual" delivery of clinical instruction and the "ideal" or expected use of such clinical teaching skills in "usual" delivery of

FIGURE 3

TEACHING SKILLS SCALE LISTINGS

THE FOLLOWING CATEGORIES WERE ESTABLISHED BY YOUR COORDINATING GROUP UPON A CAREFUL REVIEW OF ALL ITEMS GENERATED THROUGH OBSERVATION AND CRITICAL INCIDENT ACTIVITIES. THE CATEGORIES WHICH EMERGED APPROXIMATE MICROTEACHING SKILL MODELS SUCH AS THAT DEVELOPED AT STANFORD UNIVERSITY, AND CLINICAL TEACHING SKILL MODELS DEVELOPED BY SEVERAL MEDICAL SCHOOLS.

A. PRESENTATION SKILLS

PROVIDING

Organization/Preparedness
Information Giving
Pacing
Planned Repetition
Completeness of Communication
Demonstration Skill
Problem-Solving Applications
Use of Examples

B. QUESTIONING SKILLS

ASKING

Probing for Clarification
Probing for Synthesis and Implication
Fluency of Questioning Skill
Divergence in Content
Utilization of Non-verbal Cues
Assessment and Evaluation Skills

C. ATTENDING SKILLS

RESPONDING

Recognition of Behaviors from Non-verbal Cues
Reinforcing Verbally/Non-verbally
Silence in Response
Content Closure/Summary
Stimulus Variation

D. TEACHING STYLES/ATTITUDES

DEVELOPING

Authoritarian/Positive-Negative
Democratic/Positive-Negative
Laissez-faire/Positive-Negative
Toward: Teaching
    Students
    Institution
    Patients
    Profession

clinical instruction. With consortium review and modification, a response format was adopted with clearly defined and weighted Likert Type Scale response sets. The definition of each scale interval provided responses with a clearer understanding of the intent of actual skill use and expected skill use in the "usual" delivery of clinical instruction, and therefore, provided a frame of reference or context referent for skill (item) rating. While concern for use of a format design wherein both "actual" and "ideal" opinions were being elicited at the same time for each statement was thought to possibly present a Halo error effect, concern regarding matters of repeated sampling, administration, and anticipated survey response rates took precedence in designing the final response format. Refer to Appendix C. Instruments: National Survey of Clinical Teaching Skills.

Pre-testing Pilot Survey

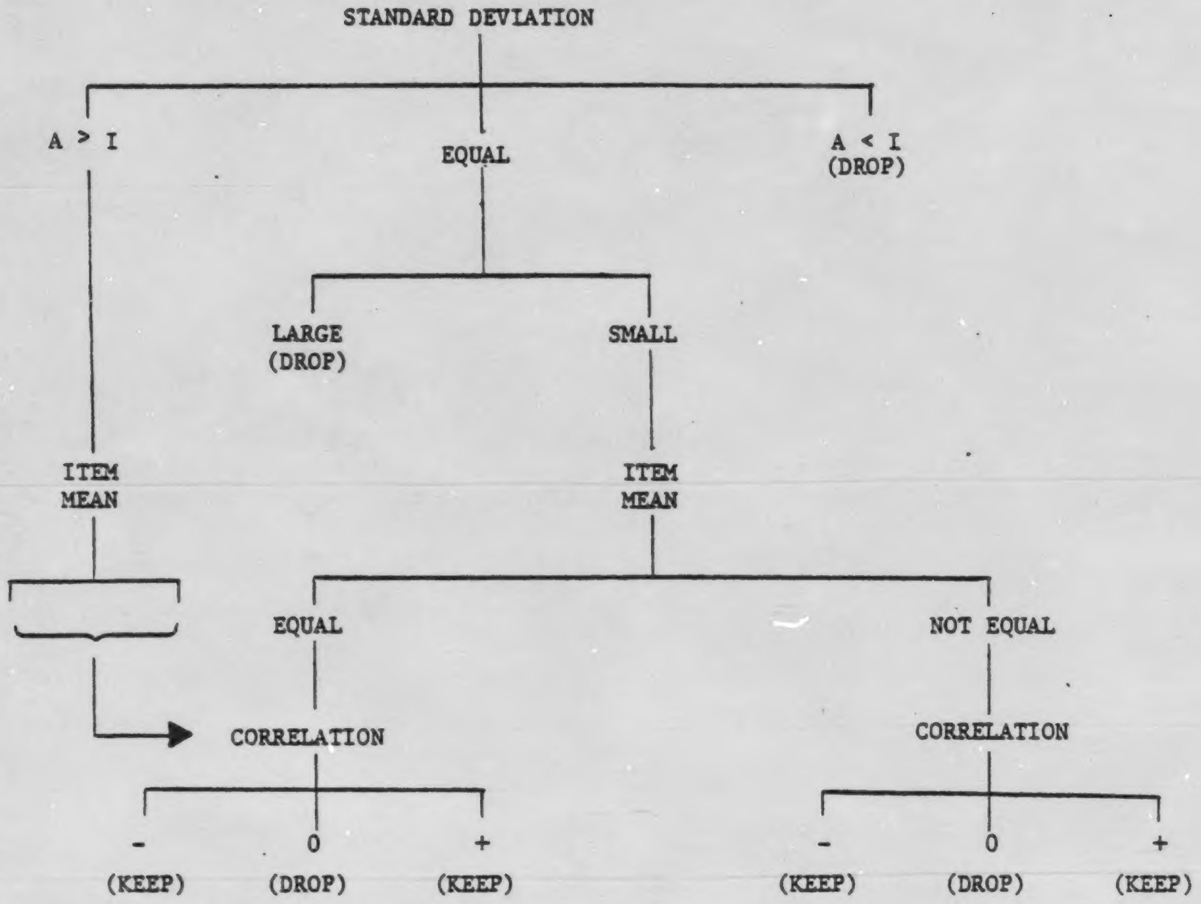
Pre-testing of the "draft" survey instruments was facilitated through the assistance of institutional representatives and coordinators, i.e., members of the consortium from three schools -The Ohio State University, The Medical College of Virginia (Virgina Commonwealth University), and the University of Alabama in Birmingham. A cover letter, explaining the intent of the study and requesting review and completion of the instruments, was provided to instructors selected for pre-testing purposes which would approximate the method of administration planned for actual use. The technique also helped to insure that scrutiny by faculty, known to be interested in the instructional process, would probably occur. A pilot testing program, guaranteed to yield representative sampling from each discipline, resulted in responses from faculty members in Medicine, in Dentistry, and in Nursing. Six clinical instructors per discipline were requested to complete the pilot survey at each school. Comments and responses to the pilot survey instrument allowed for revision and refinement. Cluster and correlation analysis programs were employed to reduce the item pool. A paradigm describing the relative conditions for item inclusion/exclusion is presented in Figure 4. Item variance was studied for both the "actual" and "ideal" responses. The assumption was that a greater consistency of response would be expected with the "ideal" portion of the item response and,therefore, would have a higher tendency to indicate which items appeared to be unclear or ambiguous.

A nine step item removal process used for item reduction purposes is provided below:

1) Removal of those items having a higher "ideal" response variance than "actual" response variance.
2) Removal of those items having "ideal" standard deviations in excess of 1.0.
3) Removal of those remaining items receiving below a .40 item-scale correlation.
4) Removal of remaining items (re-correlated) below a .45 item scale correlation.
5) Removal of remaining items (re-correlated) below a .50 item-scale correlation.

FIGURE 4

ITEM EXCLUSION/INCLUSION TECHNIQUE
BASED ON PILOT SURVEY ADMINISTRATION


STANDARD DEVIATION
A > I
EQUAL
A < I
(DROP)
LARGE
(DROP)
SMALL
ITEM
MEAN
ITEM
MEAN
EQUAL
NOT EQUAL
CORRELATION
CORRELATION
-
0
+
(KEEP)
(DROP)
(KEEP)
-
0
+
(KEEP)
(DROP)
(KEEP)

A = ACTUAL VARIANCE

I = IDEAL VARIANCE

1. CORRELATION > $|.3|$
2. $SD_1 \leq SD_A \cap SD_1 < SD_{RANDOM}$
3. CORRELATE ITEMS WITH SCALES $\cap$ $P \leq .01$
4. RECATEGORIZE ITEMS WHERE NECESSARY (WHERE QUESTIONS ARISE UTILIZE PRIORITY SCHEME PROVIDED BY CONSORTIUM MEMBERS AT FIRST WORKSHOP).

6) Transfer of remaining items to more appropriate scales when the item-scale correlation exceeded .6 on new scale.
7) Addition of discarded items to the appropriate scale when their re-correlated value to one of the scales exceeded .6.
8) Removal of items which on content review closely resembled another scale item and had a lower item-scale correlation level.
9) Addition of discarded items to the appropriate scales (based on item-scale correlation level) when through inspection it was deemed content appropriate and above a .3 correlation level.

The stepwise item elimination strategy yielded a net return of 76 items in Medicine, 61 items in Dentistry, and 73 items in Nursing. (Figure 5). Comments provided by the pilot test group also helped the study team in refining the response format directions and statements.

Demographic and Setting Identification

Materials to gather demographic information relative to each respondent's (a) academic rank, (b) time commitment for academic activity, (c) time commitment for clinical instruction, (d) total years of clinical teaching experience, and (e) previous educational enhancement activity, were designed, reviewed by the consortium and included in the final survey packets. The intent of this information, beyond providing descriptive information of the respondent sample in each discipline, was to address questions having to do with a response set based on each of the described variables.

FIGURE 5

STEPWISE ITEM ELIMINATION PATTERN

	SCALE	(*)	Step 1	(**)	Step 2	(**)	Step 3	(**)	Step 4	(**)	Step 5	(**)	Step 6-9	(**)
Medicine														
	P	(87)	17	(70)	3	(67)	21	(46)	9	(37)	11	(26)	---	(26)
	Q	(26)	6	(20)	2	(18)	4	(14)	0	(14)	0	(14)	+2	(16)
	A	(28)	6	(22)	1	(21)	4	(17)	0	(17)	2	(15)	+1	(16)
	T	(50)	11	(39)	1	(38)	7	(31)	2	(29)	6	(23)	-5	(18)
	TOTAL	(191)	40	(151)	7	(144)	36	(108)	11	(97)	19	(78)	-2	(76)
Dentistry														
	P	(73)	12	(61)	4	(57)	26	(31)	6	(25)	9	(16)	+3	(19)
	Q	(20)	5	(15)	3	(12)	1	(11)	0	(11)	2	(9)	+3	(12)
	A	(27)	5	(22)	1	(21)	5	(16)	4	(12)	2	(10)	+1	(11)
	T	(36)	7	(29)	2	(27)	7	(20)	5	(15)	3	(12)	+7	(19)
	TOTAL	(156)	29	(127)	10	(117)	39	(78)	15	(63)	16	(47)	+14	(61)
Nursing														
	P	(36)	7	(29)	1	(28)	8	(20)	3	(17)	1	(16)	---	(16)
	Q	(25)	5	(20)	1	(19)	1	(18)	0	(18)	1	(17)	-3	(14)
	A	(50)	1	(49)	1	(48)	8	(40)	4	(36)	11	(25)	---	(25)
	T	(24)	1	(23)	0	(23)	3	(20)	4	(16)	5	(11)	+7	(18)
	TOTAL	(135)	14	(121)	3	(118)	20	(98)	11	(87)	18	(69)	+4	(73)

(*) Original number of items on pilot instrument
(**) Remaining items by step

Scale Definition

P = Presentation and Providing Skills
Q = Questioning Skills
A = Attending Skills
T = Teaching Styles/Attitudes

Included as a further identifier within each survey package was a request for setting or site selection. Its intent was to provide each clinical instructor a frame of reference for responding to the item listings, as well as to provide a description of the most commonly used teaching site for clinical instruction activity. The teaching site selection form was designed with the input of consortium members within each of the three disciplines.

The Respondent Universe and Sampling Procedures Employed

An institutional summary listing of the potential respondent universe, according to health science school size and type, is outlined in Figure 6. Listings which were utilized in compiling these data were gathered from (1) the AAMC: 1975-76 Curriculum Directory, (2) the Annual Report on Dental Education, 1974-75, a summary of the Annual Survey on Dental Education Institutions, and (3) State Approved Schools of Nursing -- R.N., 1974, prepared by the National League for Nursing, Division of Research. Figures 7, 8, and 9 depict the breakdown of potential school respondents according to size, method of support, and geographical region, and provides quantitative data regarding the stratified/fractional sampling procedure employed in this study. Stratification, on the basis of institutional size, was determined by an observation of schools above and below the population median values for each discipline, e.g., 500 for Medicine, 400 for Dentistry, and 300 for Nursing. Geographic regions were determined by appropriate fit, i.e., based on the criteria of school size and method of support.

FIGURE 6

SUMMARY OF MEDICAL, DENTAL, AND NURSING PROGRAMS IN U.S.

Enrollment

Code:	0	1	2	3	4	5	6	7	8	9
Medical:	0	6.25%	9.38%	19.79%	23.96%	19.79%	6.25%	3.12%	5.21%	3.12%
Dental:	0	15.69%	15.69%	29.41%	11.77%	19.61%	3.92%	3.92%	0	0
Nursing:	12.15%	34.35%	22.11%	12.25%	7.14%	5.10%	1.36%	1.70%	.07%	2.72%

Support

Code:	1	2	3	4
Medical:	48.96%	41.67%	4.17%	4.17%
Dental:	56.86%	23.53%		19.61%
Nursing:	53.40%	46.60%		

No. Universities Having Medical, Dental, and Nursing Programs: 34
No. Universities Having Medical and Dental Programs: 8
No. Universities Having Dental and Nursing Programs: 3
No. Universities Having Medical and Nursing Programs: 30

Total Years or Weeks Instruction

Years:	3	4
Dental:	23.53%	76.47%
Nursing:	0	100%

Weeks:	114-130	131-139	140-145	146-150	151-155	156-160	161-187
Medical:	4.17%	12.50%	27.08%	11.46%	11.46%	8.33%	10.42%
			(3 yr.)			(4 yr.)	

ENROLLMENT CODE:
0 = 0 to 100 Students
1 = 100 to 200 Students
2 = 200 to 300 Students
3 = 300 to 400 Students
4 = 400 to 500 Students
5 = 500 to 600 Students
6 = 600 to 700 Students
7 = 700 to 800 Students
8 = 800 to 900 Students
9 = 900 and above

SUPPORT CODE:
1 = Public
2 = Private
3 = State
4 = Private, State Related

FIGURE 7

PROJECTED SAMPLING DESIGN

MEDICINE
(Green)

		ZONE East	 Central	 West		
PUBLIC	< 500	1. 9 2	2. 12 2	3. 7 2	(28)	
	> 500	4. 6 1	5. 13 3	6. 3 1	(22)	
		(15)	(25)	(10)		(50)
PRIVATE	< 500	7. 17 4	8. 11 2	9. 1 1	(29)	
	> 500	10. 9 2	11. 4 1	12. 2 1	(15)	
		(26)	(15)	(3)		(44)
TOTALS		(41)	(40)	(13)		(94)
20% Ss		9	8	5		(22)

Ss = Sample Size

8 x 22 $\boxed{176}$

1. Send 2 X Ss Participation Inquiries where cells permit. If response is UNDER ideal Ss send inquiries to other schools in cell.
2. Select schools randomly for study, but retain and utilize any remaining schools for inclusion or potential CONTROL.
3. Mail instruments to Clinicians.
4. Mail follow-up reminders.

FIGURE 8

PROJECTED SAMPLING DESIGN

DENTISTRY
(Blue)

- ZONE -

		East	Central	West		
PUBLIC	< 400	1. 8 2	2. 7 2	3. 3 1	(18)	
	> 400	4. 2 1	5. 7 2	6. 2 1	(11)	
		(10)	(14)	(5)		(29)
PRIVATE	< 400	7. 4 1	8. 7 2	9. 2 1	(13)	
	> 400	10. 6 1	11. 2 1	12. 1 1	(9)	
		(10)	(9)	(3)		(22)
TOTALS		(20)	(23)	(8)		(51)
20% Ss		5	7	4		(16)

8 X 16 $\boxed{128}$

FIGURE 9

PROJECTED SAMPLING DESIGN

NURSING
(White)

- ZONE -

		East	Central	West		
PUBLIC	< 300	1. 39 8	2. 41 8	3. 16 3	(96)	
	> 300	4. 17 3	5. 30 6	6. 10 2	(57)	
		(56)	(71)	(26)		(153)
PRIVATE	< 300	7. 44 8	8. 49 9	9. 13 3	(106)	
	> 300	10. 15 3	11. 14 3	12. 4 1	(33)	
		(59)	(63)	(17)		(139)
TOTALS		(115)	(134)	(43)		(292)
20% Ss		22	26	9		(57)

8 X 57 $\boxed{456}$

Survey Administration

Techniques designed for survey administration were developed in response to the unavailability of clinical instructor rosters within the three health profession areas. Schools selected through the sampling technique described were mailed letters of participation intent through their key administrative officer. Requested were the names and mailing addresses of clinical instructors willing, but selected by the administrative officer, for study participation. Refer to Appendix D. Letters of Intent and Participation.

The initial letter of intent requested up to eight, but at least four, faculty members to be identified for study participation. Follow-up letters, two weeks after the initial mailing, were mailed if no reply was received from each of the study schools.

Upon receipt of the names and addresses of clinical instructor participants, the survey packages were mailed. Follow-up letters were sent only if the 20% cell requirements were not met. When cell requirements were not met, after a period of six weeks, other schools within the unfilled cell were contacted for study participation. For a composite list of the universe for the sample population of schools in this study, refer to Appendix E.

Confidentiality of Data

Expressed within letters of intent and participation request were assurances of complete anonymity. The names of clinical faculty participating in the study were requested on the survey forms, but only for follow-up purposes and the mailing of study results. Upon completion of the follow-up phase of the study, names of clinical faculty were purged from the data base.

PHASE II - STATE OF THE ART

Synthesized statements as a result of the consortium effort provided the project staff with an item pool for the National Survey of Clinical Teaching. Correlational analysis was applied to reduce the item pool in each discipline, and each pilot survey was validated prior to national administration.

The National Survey of Clinical Teaching was administered by the Division of Research and Evaluation in Medical Education, The Ohio State University, College of Medicine. Survey return data, and analyses were coordinated by the project staff through the Division of Research and Evaluation.

To demonstrate the "state of the art" of clinical teaching, i.e., "actual" or observed clinical teaching behaviors, as valid and reliable statements of what is occurring in clinical science teaching, mean values and standard deviations were determined for each survey response. The "actual" and "ideal" responses were analyzed to report: a) what a national sample of clinical instructors was doing in clinical science teaching, and b) whether the sample population was in congruence or discord with the consortium study group. The fact that the consortium did a good job approximating the "state of the art" can be seen by studying the mean values and standard deviations of the survey responses.

Parallel factor analyses were carried out on the "actual" and the "ideal" responses to validate the predetermined four category teaching skill classification subscales and/or identify other subscales which may be used for the surveys.

Parallel multivariate analyses (one-way MANOVA's) were performed for each skill grouping in each discipline on both the "actual" and "ideal" scales. One-way MANOVAs were performed using each of the classification variables, i.e., size of the student body, geographic location (East, Central, or West), support (private or public), and teaching site as a variable.

Classification variables, i.e., size, location, support, and teaching site, were analyzed by cross tabulations with obtained descriptive data using a X^2 statistic to determine if there were systematic differences due to these variables. Demographic variables studied were a) academic rank, b) time commitment to teaching, c) time in clinical instruction, d) teaching experience, and e) professional development, i.e., workshops, professional meetings, course work, etc. These analyses indicated few differences.

In developing the "state of the art," the consortium members and the project staff placed great emphasis upon direct observation and Critical Incident Technique in order to develop the pool of survey items for the actual and ideal scales. Two (2) types of errors are possible in developing the state of the art:

Type A error - the probability of including a component, i.e., teaching skill, that is NOT in fact part of the current clinical teaching behavior, and

Type B error - the probability of NOT including a component, i.e., teaching skill, that is in fact part of the current repertoire of clinical teaching skills.

PHASE III - DISCREPANCY MODEL DEVELOPMENT

A comparison was undertaken between the "actual" and the "ideal" responses of the survey, i.e., matched t tests were performed to determine the discrepancy between "actual" and "ideal" for each statement individually. We statistically verified what appeared to be obvious since all items were expected to be highly significant. Since all the differences were significant, i.e., differences being that the "Actual" survey item statements were being done much less than the "Ideal", a priority statement scheme was developed.

PHASE IV - DEVELOPMENT OF INSTRUCTIONAL OBJECTIVES

In preparation for the next consortium meeting, the project staff met to discuss the writing of instructional objectives in order to further develop appropriate learning/teaching/staff development activities. On inspection of the "state of the art" (actual or observed) and the "ideal" (expected) scales, it was evident that the statements could be rewritten in behavioral terms as an instructional objective.

An analysis of the mean values and standard deviations of the statements permitted a priority typa scheme to rank order items according to four (4) priority levels: Priority I, II, III, and "zero" level objectives for each discipline. A study of the differences in mean values indicated the importance of each item.

Priorities were assigned based not only on the mean differences ("actual" versus "ideal"), but also on the relative importance of the items. An inspection of a Priority I item discrepancy, i.e., the mean difference, shows that individual respondents were saying that they do these activities often (actual) but these teaching activities should be done even more frequently (ideal)!

A modified Delphi technique was again employed in developing instructional objectives prior to the October 20, 1977 consortium meeting held in Columbus. This two (2) day workshop was directed toward a) the process for transforming discrepancy statements into objectives, and b) the process for generating activity listings for meeting each instructional objective. Each discipline, i.e., Medicine, Dentistry, and Nursing worked as a team in completing these assignments prior to returning to their respective institutions. In order to facilitate the process, the project staff generated a listing of objectives relative to clinical teaching skills, according to the Priority Levels I, II, III, or "zero" scheme. These objectives were written and directed toward participants in clinical science teaching. The activity statements would, in turn, be written by the consortium in response to faculty development efforts. The specific charge before the group was to review the statements for clarity and parallelism in structure and to identify specific activities an instructor might undertake to meet that objective. Although several suggestions were made and advanced materials were sent to consortium members prior to the meeting, each discipline was encouraged to work through the agenda according to their own rules. However, a finalized list of objectives and activities had to be derived via consensus. Once all objectives and activities for priority items I and II were ranked, a summary sheet listing objectives by number and activities was completed. These materials were inspected by the project staff for redundant statements, completeness of information, and again, clarity and parallelism and sent to each institutional representative for final approval, revision, editing, etc. Ultimately these materials provided the baseline upon which instructional strategies would be developed.

PHASE V - IDENTIFICATION OF ALTERNATIVE INSTRUCTIONAL STRATEGIES

Perhaps one of the most important decisions in the teaching/learning process is the identification and selection of instructional strategies. Next to the careful selection of educational objectives, properly utilized teaching methods can do more to promote efficiency and effectiveness of learning. With the advent of improved technology, changes in equipment, and costs, the selection of appropriate strategies has taken on real meaning. Rather than selecting a strategy based on sound criteria, a strategy was typically selected on convenience or expediency. Such decisions could, and typically do,interfere with efficient/effective learning or the failure to achieve the objective.

There is no single best method of teaching, just as there is no single or best method for learning. Ultimately the choice of strategy must be compatible with the objectives of the instruction, the type of students served, the nature of the school system, and ultimately the teacher's own experiences with the strategy. One might assume that an effective teacher (effective program) is one who (which) utilizes a variety of methods in meeting the objective as the teacher assesses the students' capabilities and learning styles. By combining the knowledge the teacher has of both strategy and recipient, the better able he/she is to select that method which will best carry the students forward. The result of proper decisions in this area fosters motivation and learning.

Too often, an instructor or program offers only one or two methods — typically the lecture or student assignments. The instructor's repertoire is too constricted to meet the varying demands of his/her subject (objectives) and students. As a consequence, inattention and inefficient learning takes place. The selection of appropriate strategy is a key to resolving this problem.

Definition:

An instructional strategy is a combination of teaching methods and techniques designed to accomplish an instructional job. An instructional method is the basic approach to instruction. It may include a lecture, demonstration, conference, performance, programmed instruction, study assignment, tutoring,or a combination of two or more of these methods. These methods combine to make strategies. They can be catalogued as primary — that is, the most effective and efficient ones. A supportive method in the strategy is an essential complement to the primary method and an alternative method which may be used as a substitute when the optimal one cannot be used.

Factors to Consider

Every instructional strategy has advantages and limitations. It is essential that careful consideration be given to them. Strategy decisions must be based on careful analysis of the learning situation from several points:

1) Instructional objective: This is the primary consideration. It defines what the student will do as a result of the program. The instructional activities are action potentials for the objective and aid in guiding the choice of strategies.
2) Course content: This is a difficult factor to reconcile unless one is versed in the content of the subject being addressed. Best estimates of strategies chosen where there is some void in content must be corroborated by experts in the field. This is especially important when considering teacher training.
3) The student population: The size, experience, educational level, maturity, etc., impact considerably on the choice of strategies. When the population extends over multiple professions as in the case of Medicine, Dentistry, and Nursing, similar strategies may be used. Yet, due to the nature of the variation in clinical settings, some methods may be more appropriate for one group than another.
4) Instructors: Obviously, the instructor's experience in

delivering instruction will impact on the choice of strategies.

5) Facilities, equipment, instructional material: Each instructional strategy will demand the use of specific types of facilities, equipment, and material. Obviously, if requisite resources are not available, an alternative method may be called for or support sought for the method from other sources.

Time. This factor is fast becoming the teacher's most precious resource. The objective should in part aid in determining whether the instruction should be given in blocks, or distributed over time. The answers to these types of considerations should impinge on the selection of methods. If time is limited, alternatives should be chosen.

Costs: the bottom line. This criteria is not distinct from other factors. The cost of a strategy should be reasonable when measuring it against effectiveness. All other factors being equal, if the expected gains in learning effectiveness of a strategy does not affect any additional costs incurred by the use of that strategy, a less costly one can be chosen. Also, savings in time, personnel, and facilities must justify the involvement in the strategy.

Instructional Strategies

To reiterate, a strategy is a plan or method utilized to obtain a specific goal or result. The following methods are to be considered by the consortium schools in meeting the identified activities for improving clinical skills teaching:

- The Lecture Method
- The Conference Method
- The Demonstration Method
- The Performance Method
- Programmed Instruction
- Study Assignments
- Tutorials
- Combined Instruction

A discussion of the instructional methods and their applications appear below. These methods are then matched with the specific objectives in each discipline. They are reviewed according to fixed criteria and subsequently are ordered into a succinct plan of action for clinical skill enhancement.

1. The Lecture Method

A. Definition: A lecture is a semiformal discourse in which the instructor presents a series of events, facts, concepts, or principles, explores a problem, or explains relationships. Students participate in a lecture mainly as listeners. A lecture is basically a means of "telling" students information they need to know. This does not mean, however, that all the talking done by an instructor during a class period can be termed a lecture. The term must be reserved to describe a more formal discourse which is used to achieve an instructional objective. A lecturette is a condensed version of a lecture, typically used to present a single concept, idea or event.

B. Uses: Fundamentally, the purpose of a lecture is to inform. The instructor has information which he wishes to transmit to participants by means of oral communication. Some of the more appropriate uses of the lecture are as follows:

1) To orient students to course policies, rules, procedures, purposes, and learning resources.
2) To introduce a subject, indicate its importance, and present an overview of its scope.
3) To give directions on procedures for use in subsequent learning activities.
4) To present basic material which will provide a common background for subsequent activities.
5) To set the stage for a demonstration, discussion, or performance.
6) To illustrate the application of rules, principles, or concepts.
7) To review, clarify, emphasize, or summarize.

Lectures may be enhanced by including audio-visual aids.

2. The Conference Method

A. Definition: The conference is a method in which group discussion techniques are used to reach instructional objectives. These discussion techniques include questions, answers, and comments from the instructor in combination with questions, answers and comments from the students, and are directed toward learning objectives. Basically, there are three types of conferences: directed discussion, training conferences, and seminars. No sharp lines of demarcation exist between any of these forms. However, the objectives of the conference, and the kind and amount of participation, determine when a directed discussion becomes a training conference, and when a training conference becomes a seminar. The bases for these distinctions are as follows:

1) Directed discussion. Here the objective is to help students acquire better understanding and the ability to apply known facts, principles, concepts, policies, or procedures, or to provide students with an opportunity to apply this knowledge. The function of the instructor is to guide the students discussion in such a way that the facts, principles, concepts, or procedures are clearly articulated and applied.
2) Training conference. In a training conference, the objective is to pool the knowledge and past experience of the students to arrive at improved or more clearly stated principles, concepts, policies or procedures. The topics discussed in a training conference are less likely to have pat answers than those used in a directed discussion. The task of the

instructor is to elicit contributions from the group, based on past experiences, which have a bearing on the topic at hand. Balanced participation, then, is the goal.

3) Seminar. The purpose of the seminar is to find an answer to a question or a solution to a problem. The instructor does not have an answer or a solution; in fact, there is no known best or correct solution. Rather, he is seeking an answer and uses the group to develop one. The primary functions of the instructor are to describe the problem as he understands it and to encourage free and full participation in a discussion aimed at:

(a) Identifying the real problem.

(b) Gathering and analyzing data.

(c) Formulating and testing hypotheses.

(d) Determining and evaluating alternative courses of action.

(e) Arriving at conclusions.

(f) Making recommendations to support or arrive at a solution or a decision.

B. Uses: The conference method is a valuable tool in the instructor's kit. Some of the more important applications of this method are as follows:

1) To develop imaginative solutions to problems.

2) To stimulate interest and thinking, and to secure student participation in situations which would otherwise allow the class to remain passive.
3) To emphasize the main teaching points.
4) To supplement lectures, readings, or laboratory exercises.
5) To determine how well students understand concepts and principles, and to determine if they are ready to proceed to new or more advanced material.
6) To prepare students for the application of theory or procedure to specific situations.
7) To summarize, clarify points, or review.
8) To prepare students for instruction which is to follow.
9) To determine student progress and the effectiveness of prior instruction.

3. The Demonstration Method

A. Definition: A demonstration is a method of instruction where the instructor, by actually performing an operation or doing a job, shows the trainee what to do, how to do it, and through explanations, brings out why, where, and when it is done. Usually, the trainee is expected to be able to repeat the job or operation after the demonstration. For this reason, the demonstration is often used in conjunction with another method. The most common combinations are the lecture-demonstration and the demonstration-performance.

B. Uses: The basic purpose of a demonstration is to show how something is done. It should be employed wherever and whenever practicable. Here are some of its more important applications.

1) To teach manipulative operations or procedures, e.g., how something is done.
2) To teach problem-solving and analytical skills.
3) To illustrate principles, e.g., why something works.
4) To teach operation or functioning of equipment, e.g., how something works.
5) To teach teamwork, e.g., how men and women work together to do something.
6) To set standards of workmanship.
7) To teach safety procedures.

The demonstration method has been extended to include video/audio taping wherein the student observes his own behavior under supervision of the instructor.

4. The Performance Method

A. Definition: A performance is a method in which the student is required to perform under controlled conditions, the operation, skill, or movement being taught. Performance is learning by doing. There are four basic types of performance:

1) Independent practice. In this type of performance students work individually and at their own rates.

2) Group performance or controlled practice. Here students work together at the rate set by the instructor, step-by-step and "by-the-numbers."

3) Coach and pupil. This method involves pairing students. Members of each pair perform alternately as instructor and student.

4) Team performance. Here, a group of students perform an operation or function which involves teamwork.

B. Uses: In general, the performance method has the same applications as the demonstration method and is used as follow-up instruction:

1) To teach manipulative operations or procedures.

2) To teach operation or functioning of equipment.

3) To teach team skills.

4) To teach safety procedures.

5. Programmed Instruction

A. Definition: Programmed instruction is a method of self-instruction in which the student works through a carefully sequenced and pretested series of steps leading to the acquisition of knowledge or skills representing the instructional objectives. The student proceeds through the program at his own rate, responds actively (or covertly) to each step in the sequence, and receives immediate feedback on the correctness of his response before proceeding to the next step. Programs are usually designed to permit the student to master the desired knowledge or skills. Programmed instruction can take the form of computer, paper-pencil exercises, or through latent image writing in simulations.

B. Uses:

1) To provide remedial instruction.
2) To provide make-up instruction for late arrivals, absentees, or transients.
3) To maintain previously learned skills which are not performed frequently enough to insure an acceptable level of proficiency.
4) To provide retraining when equipment and procedures have become obsolete or have been replaced since the original training was given.
5) To upgrade production, administrative, and other types of skills and knowledge.
6) To accelerate capable students and thereby enable them to complete a course in less than the usual amount of time.
7) To provide a means of insuring enough common background among students to profit from formal classroom work (advance study).
8) To provide the review and practice of knowledge and skills needed to "set" the learning.

9) To provide vertical enrichment (advanced work) or horizontal enrichment (broader contact) in a content area.
10) To control the variables in a learning situation for experimental purposes.

6. Study Assignment

A. Definition: The study assignment is a method in which the instructor assigns readings in books, periodicals, manuals, or handouts; requires the completion of a project or research paper; or prescribes problems and exercises for the practice of a skill. This method involves imposing a task, providing for student motivation, and giving general directions for carrying out the assignment. Implicit in this method are the problems of setting up worthwhile learning activities, and anticipating student difficulties and means of overcoming them. If these steps are not well handled, the objectives of the assignment are not likely to be achieved. The study assignment has two basic forms:

1) Independent Study. Here the student carries out the assignment without instructor assistance or direct guidance.
2) Supervised study. In this form, the student carries out the assignment with an instructor available for guidance and assistance.

B. Uses:

1) To orient students to a topic prior to classroom or laboratory work,

2) To set the stage for a lecture, demonstration, or discussion, i.e., advance study.
3) To provide for or capitalize on individual differences in ability, background, or experience through differentiated assignments.
4) To provide for the review of material covered in class or to give the practice essential for the development of skills and problem-solving ability, i.e., homework.
5) To provide enrichment material.

7. Tutoring

A. Definition: Tutoring, or coaching, is a method of instruction in which an instructor works directly with an individual student. The method may involve exposition, demonstration, questioning, coaching, or guided practice.

B. Uses:

1) To teach highly complex skills and operations or operations which involve considerable danger to men or hazards to expensive equipment.
2) To provide individualized remedial assistance.

8. Combination Instruction

A. Definition: This is a method of instruction which uses two or more basic instructional approaches in combination. For example, this method for one lesson might include a study assignment, a lecture in which safety precautions in handling a piece of equipment are emphasized, a demonstration by the instructor, and, finally, performance by the students.

B. Uses: Combination lessons can be used to meet almost any type of instructional objective in any training situation. However, they are most appropriate where skill development is involved.

PROCEDURES FOR SELECTING INSTRUCTIONAL STRATEGIES

The process of selecting instructional strategies cannot be set forth as a series of routine steps which can be followed mechanically. Selecting strategies involves so many variables that the process is extremely complex. Strategies decisions, therefore, must be based primarily on professional judgment following careful consideration and weighing of all factors. To do this well, the instructor must have a thorough knowledge of methods of instruction, systems of organization, and mediating devices, including an understanding of their uses, advantages, and disadvantages. The initial steps in selecting an instructional strategy appear to be subtle. In fact, the final choice in selecting a strategy (method) is deceptively simple. However, there are many judgments involved. For this reason, the procedure must be viewed as a total process, and only as a guide. The appropriateness of strategies selected, even using the procedures as defined below, still hinges on the quality of judgments made.

The preliminary selection of an instructional module should commence with a study of each performance objective for the specific block of instruction. In this particular case, objectives are listed according to discipline and priority, i.e., relative importance of teaching skills as determined by the discrepancy between "actual" and "ideal" teaching situation. Clinical teaching skills, identified within each discipline and occurring in specific teaching sites, were developed into instructional objectives with measurable teaching activities. These steps, i.e., the process leading to the development of instructional objectives and activities, were critical to the further development of a procedure for selecting instructional strategies (plans, methods, and/or modules).

In studying each instructional objective, note what the student is to be able _to do_ following the instruction and the _activities_ to be undertaken by the instructor in order to achieve each objective. Refer to Appendix F. Tables 1-6 lists, according to discipline, a) instructional objectives, b) activities, and c) instructional strategies to be utilized in meeting each objective. These work sheets or tables list instructional strategies for achieving objectives according to _primary_, _supportive_, and/or _alternative_ instructional plans. The use of these categories permits professional judgment to prevail in the selection of an "optimum" plan. Note that the primary,supporting and alternative methods are reported in columns 3, 4, and 5 in Tables 1-6. For example, the instructional objectives specified in column 1 can be achieved via the activities in column 2. The primary instructional method recommended is reported in column 3, followed by a supportive plan (column 4). Should the instructional strategies suggested as primary and supportive not be possible within a particular institution, an alternative method is recommended in column 5. Depending upon a number of factors at the institution, e.g., faculty, budget, physical space and student number, professional judgment ultimately enters the decision-making process.

Further, the listing of objectives, instructional activities, and strategies is a synthesis of thought, ideas, and objective development and analysis as a result of the consortium study. The specific selection of objectives, activities, and instructional strategies is based upon a comparative analysis of plans within each discipline (Medicine, Dentistry, and Nursing).

The discipline-specified work sheets were forwarded to the consortium members. The consortium members were instructed to:
1) review the listing of objectives and activities, 2) review the description of the strategies, 3) according to the directions, determine which strategy would best accomplish the objectives and activities.

The only criteria used at this point was congruence - the degree of fit between the objective and the strategy. That is, for an objective which demands some degree of personal interaction, such as role playing, demonstrating a skill, or asking for classification, a strategy which best permits the activity to be learned would have to be chosen.

Upon receipt of the consortium work sheets, the project staff generated interater reliability coefficients for each objective by discipline. This step was necessary in order to determine the degree of agreement among each of the raters within the disciplines. High coefficients would provide greater confidence in the choice of primary and secondary strategies. To accomplish this, the choices made by the consortium members were weighted. The primary choice received a weight of 2; the supportive and alternate choices were assigned a value of one each.

It was decided to weight the primary choice greater because of its clear intent. The supportive and alternative choices could ultimately combine in value, to provide the project with a clear second choice. It was anticipated that the consortium members would show relatively strong agreement in their selection of strategies. Refer to Appendix P for the Interater Reliability Coefficients.

PHASE VI - IDENTIFICATION OF OPTIMAL PLAN

Once alternative strategies were identified, other criteria became operational in selecting the optimal single strategy for meeting the objectives.

The criteria selected for assessing the alternative strategies were: (a) time necessary for the development of materials/methods, (b) costs involved in the development of materials/methods, (c) time to be utilized in training, (d) estimation of success in meeting the objectives, (e) units of equipment needed, and (f) evaluation potential.

Values were assigned to each criteria, corresponding to a three level range — high, medium, and low. The values (by criteria) are found in Figure 10. The values are approximations of actual development time in weeks, costs, time utilized by the consumer, success rate, and equipment needs. Figure 11 presents the sample work sheet

FIGURE 10

SELECTED CRITERIA USED FOR COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES

	CRITERIA					
	Development Time (weeks)	Cost For Development $	Time Utilized (Hrs)	Post Test Performance (Success) %	Units of Equipment	Evaluation Potential *
HIGH	>8	>150	>4	>75	>5	c
MEDIUM	2-8	50-150	2-4	50-75	3-5	b
LOW	<2	<50	<2	<50	<3	a

*Defined as: a = limited process & product feedback
b = moderate process & product feedback
c = maximal process & product feedback

Personnel or travel costs are not included. The assumption has been made that necessary professional staff are available for strategy development and implementation.

FIGURE 11

COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

Discipline Medicine Priority 1 Objective # 10

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key								
	Development Time (Weeks)								
	Cost for Development								
	Time Utilized (Hours)								
	Post Test Performance (Success) %								
	Units of Equipment								
	Evaluation Potential *								

Key:

p = primary
s = secondary

L = Lecture
C = Conference
D = Demonstration
PE = Performance Exercise
PI = Programmed Instruction
SA = Study Assignment
T = Tutoring
COM = Combination Instruction

* Evaluation Potential

a = limited process and product feedback
b = moderate process and product feedback
c = maximal process and product feedback

H = High
M = Medium
L = Low

for evaluating the objectives/strategies according to these criteria. Appendix G. reports by discipline and objectives, Comparative Analysis of Instructional Strategies Based Upon Selected Criteria.

Each objective and its accompanying activities were entered into the area provided and assessed according to selected criteria in determining an optimal instructional strategy. The first row called for a listing of alternative strategies as primary and secondary. In most cases, three or more strategies could be identified as being optimal.

Once the optimal strategies were entered into the matrix using the five criteria, decisions about the strategies were made by the project staff. The modified Delphi procedure was employed to arrive at consensus by the consortium members. These individuals were asked to review the project staffs' decisions. If they disagreed with the decisions made, the consortium members were asked to alter the work sheet accordingly. Obviously agreement resulted in no change in the work sheet. Responses were returned to the project staff for final determination.

Based on interater reliability coefficients, primary and secondary strategies were identified. In some cases, no clear preference was identified for a primary strategy. These were identified by low interater reliability values. In those cases, the project directors made the decision pertaining to primary and secondary choices. The consortium's assessment of teaching strategies by the five (5) criteria appears in Appendix G.

Tables 7, 8, and 9 cluster specific objectives under primary and secondary instructional strategies. A study of these tables shows preferred teaching (learning) styles within each discipline.

Medicine shows a preference for Conference$^{(C)}$ and Demonstration$^{(D)}$ methods: Dentistry shows a preference for Lecturing$^{(L)}$; and Nursing indicates a preference for Conference and Study Assignment$^{(SA)}$ as an instructional strategy.

Table 10, presents these data according to clusters of objectives to be achieved under selected strategies. The listing provides for the reader a selection of objectives that can be accomplished independently or collectively when the instructional strategy is used.

TABLE 7

SUMMARY TABLE; TABULATION OF INSTRUCTIONAL OBJECTIVE BY PRIORITY RATING BY TEACHING STRATEGY

- MEDICINE -

INSTRUCTIONAL STRATEGIES	PRIORITY I								PRIORITY II							
	L	C	D	PE	PI	SA	T	COM	L	C	D	PE	PI	SA	T	COM
PRIMARY (P)	1,6	8,10, 11,12, 13,15, 17,20	2,3, 4,5, 7,9, 11,14, 16,18, 19,21						1,2, 10	5,7, 8,9, 10,11, 12,13, 18,19, 20,22, 23,24, 25,28	3,4, 6,14, 15,16, 17,21, 22,26, 27,28					
SECONDARY (S)	5,8, 11,13, 16	1,2, 4,5, 7,9, 14,16, 19,21	1,6, 10,13, 15,17, 20	3,4, 7,9, 14,15, 17,18, 20	12,13	8,10		10,19	4,6, 8,9, 14	1,2, 3,6, 14,15, 21,26, 27	1,2, 5,7, 11,12, 13,18, 19,23, 24,25	3,10, 11,12, 15,16, 17,18, 19,20, 21,22, 24,25, 27,28	12		5,17	9,13, 20

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TABLE 8

SUMMARY TABLE: TABULATION OF INSTRUCTIONAL OBJECTIVE BY PRIORITY RATING BY TEACHING STRATEGY

- DENTISTRY -

INSTRUCTIONAL STRATEGIES		PRIORITY I									PRIORITY II							
		L	C	D	PE	PI	SA	T	COM		L	C	D	PE	PI	SA	T	COM
	PRIMARY	1,2, 3,5, 7,8, 11,12, 13	4,13, 14	2,5, 9,10	9					P	2,3, 5	4,6, 12	1,7	6,7, 8,9, 10 11				12
	SECONDARR	10	1,2, 3,5, 7,8, 10,11, 12	4,13, 14	1,4, 5,6, 11,14		3		7,8, 9	S		1,2, 7,8, 9,10, 11	4,6, 8	1,4, 12		4,5		3,5, 7,8, 11

TABLE 9

SUMMARY TABLE: TABULATION OF INSTRUCTIONAL OBJECTIVE BY PRIORITY RATING BY TEACHING STRATEGY

- NURSING -

		PRIORITY I									PRIORITY II							
		L	C	D	PE	PI	SA	T	COM		L	C	D	PE	PI	SA	T	COM
INSTRUCTIONAL STRATEGIES	PRIMARY	1,3	4,5, 6,7, 9,12, 13,15, 17		10,11, 14,16		2,4, 8,12, 13,14, 15			P		2,7, 8,11, 14,15, 17,19, 21	2	3,5, 9,10, 11,12, 13,16, 18,20		4,6, 19		
	SECONDARY	4,5, 7,9, 17	1,3, 8	16	2,5, 6,7, 8		1,5, 6,9, 10,11, 17		13	S	15,16, 21	1,3, 4,5, 6,9, 10,12, 13,18, 20		1,4, 6,14, 15		2,3, 7,8, 9,10, 11,12, 13,16, 17,20, 21	8	

TABLE 10

INSTRUCTIONAL OBJECTIVES CLUSTERED ACCORDING TO SELECTED STRATEGIES IN MEDICINE, DENTISTRY, AND NURSING

DISCIPLINE: MEDICINE (Priority I)

Primary Instructional Strategy: Lecture

Objectives:

1. To explain to students what they are expected to learn from the instruction presented.

6. To present material in a clear, logical, and organized manner.

Primary Instructional Strategy: Conference

Objectives:

8. To inform students of evaluation criteria for measuring performance.

10. To ask students for data and/or literature references to support opinions, conclusions.

11. To prepare for class and student sessions.

12. To provide meaningful and accurate estimates of student performance for evaluation, promotion and/or review committees on a regular basis.

13. To recognize students' educational problems.

15. To correct mistakes in a positive and constructive way.

17. To ask students about difficulties on service.

20. To convey a willingness to learn from students.

TABLE 10
(Page 2)

Primary Instructional Strategy: Demonstration

Objectives:

2. To review and criticize the presentation of a guest lecturer.
3. To instruct how to structure a consultation request to elicit specific information.
4. Describe how one might interact with patients of different age, sex, socioeconomic or ethnic backgrounds.
5. To instruct students on how to select and utilize consultants effectively.
7. To calmly organize and control a chaotic clinical situation.
9. To encourage and provide student opportunities to teach.
11. To prepare for class and student sessions.
14. To provide frequent feedback on student performance.
16. To outline component parts of a complex topic or procedure.
18. To provide consistency in the critique of student performance.
19. To provide time for discussion with individual students.
21. To convey respect for other specialties, disciplines, and professions.

Secondary Instructional Strategy: Lecture

Objectives:

5. To instruct students on how to select and utilize consultants effectively.
8. To inform students of evaluation criteria for measuring performance.

TABLE 10
(Page 3)

Secondary Instructional Strategy: Lecture (continued)

11. To prepare for class and student sessions.

13. To recognize students' educational problems.

16. To outline component parts of a complex topic or procedure.

Secondary Instructional Strategy: Conference

1. To explain to students what they are expected to learn from the instruction presented.

2. To review and criticize the presentation of a guest lecturer.

4. Describe how one might interact with patients of different age, sex, socioeconomic or ethnic backgrounds.

5. To instruct students on how to select and utilize consultants effectively.

7. To calmly organize and control a chaotic clinical situation.

9. To encourage and provide student opportunities to teach.

14. To provide frequent feedback on student performance.

16. To outline component parts of a complex topic or procedure.

19. To provide time for discussion with individual students.

21. To convey respect for other specialties, disciplines, and professions.

Secondary Instructional Strategy: Demonstration

1. To explain to students what they are expected to learn from the instruction presented.

6. To present material in a clear, logical, and organized manner.

TABLE 10
(Page 4)

Secondary Instructional Strategy: Demonstration (continued)

10. To ask students for data and/or literature references to support opinions, conclusions.

13. To recognize students' educational problems.

15. To correct mistakes in a positive and constructive way.

17. To ask students about difficulties on service.

20. To convey a willingness to learn from students.

Secondary Instructional Strategy: Performance Exercise

3. To instruct how to structure a consultation request to elicit specific information.

4. Describe how one might interact with patients of different age, sex, socioeconomic or ethnic backgrounds.

7. To calmly organize and control a chaotic clinical situation.

9. To encourage and provide student opportunities to teach.

14. To provide frequent feedback on student performance.

15. To correct mistakes in a positive and constructive way.

17. To ask students about difficulties on service.

18. To provide consistency in the critique of student performance.

20. To convey a willingness to learn from students.

Secondary Instructional Strategy: Programmed Instruction

12. To provide meaningful and accurate estimates of student performance for evaluation, promotion and/or review committees on a regular basis.

13. To recognize students' educational problems.

TABLE 10
(Page 5)

Secondary Instructional Strategy: Study Assignment

8. To inform students of evaluation criteria for measuring performance.

10. To ask students for data and/or literature references to support opinions, conclusions.

Secondary Instructional Strategy: Combination Instruction

10. To ask students for data and/or literature references to support opinions, conclusions.

19. To provide time for discussion with individual students.

TABLE 10
(Page 6)

DISCIPLINE: MEDICINE (Priority II)

Primary Instructional Strategy: Lecture

Objectives:

1. To summarize major points at appropriate times during instruction.
2. To outline problem-solving approaches to the case.
10. To ask for a "problem listing" on the patient.

Primary Instructional Strategy: Conference

5. To relate educational reading material to a current patient.
7. To stimulate student interest in a specific patient during case presentation.
8. To inform student(s) of evaluation criteria for measuring his/her performance.
9. To explain incorrect responses to questions.
10. To ask for a "problem listing" on the patient.
11. To ask student to differentiate between essential and non-essential data.
12. To ask questions which make student use deductive reasoning.
13. To ask student for successive management steps.
18. To give positive verbal reinforcement on clinical performance.
19. To assess and focus on level of student understanding of topic.
20. To ask students for feedback and suggestions for improving learning experience on the service.

TABLE 10

(Page 7)

Primary Instructional Strategy: Conference (continued)

Objectives:

22. To demonstrate an interest in the students' efforts to learn.
23. To admit limits of own medical knowledge and experience.
24. To emphasize promptness for teaching sessions.
25. To provide for student participation in the instructional process.
28. To encourage students to evaluate critically lab data, consultant recommendations, etc.

Primary Instructional Strategy: Demonstration

3. To check selected elements of student work-up by interviewing or examining patient in presence of students.
4. To demonstrate specific clinical techniques.
6. To describe how to perform a high quality clinical exam as related to a specific case.
14. To present behavioral, social, family and financial factors in decisions regarding patient management.
15. To point out student's missed observations.
16. To respond enthusiastically to questions.
17. To encourage students while they are performing procedures.
21. To convey a tolerance for uncertainty in medical problems.
22. To demonstrate an interest in the students' efforts to learn.
26. To convey and demonstrate leadership skill as a professional attribute.
27. To demonstrate critical appraisal of lab data, and consultant recommendations.
28. To encourage students to evaluate critically lab data, consultant recommendations, etc.

TABLE 10
(Page 8)

Secondary Instructional Strategy: Lecture

Objectives:

4. To demonstrate specific clinical techniques.
6. To describe how to perform a high quality clinical exam as related to a specific case.
8. To inform student(s) of evaluation criteria for measuring his/her performance.
9. To explain incorrect responses to questions.
14. To present behavioral, social, family and financial factors in decisions regarding patient management.

Secondary Instructional Strategy: Conference

1. To summarize major points at appropriate times during instruction.
2. To outline problem-solving approaches to the case.
3. To check selected elements of student work-up by interviewing or examining patient in presence of students.
6. To describe how to perform a high quality clinical exam as related to a specific case.
14. To present behavioral, social, family and financial factors in decisions regarding patient management.
15. To point out student's missed observations.
21. To convey a tolerance for uncertainty in medical problems.
26. To convey and demonstrate leadership skill as a professional attribute.
27. To demonstrate critical appraisal of lab data, and consultant recommendations.

Secondary Instructional Strategy: Demonstration

1. To summarize major points at appropriate times during instruction.

TABLE 10
(Page 9)

Secondary Instructional Strategy: Demonstration

Objectives:

2. To outline problem-solving approaches to the case.
5. To relate educational reading material to a current patient.
7. To stimulate student interest in a specific patient during case presentation.
11. To ask student to differentiate between essential and non-essential data.
12. To ask questions which make student use deductive reasoning.
13. To ask student for successive management steps.
18. To give positive verbal reinforcement on clinical performance.
19. To assess and focus on level of student understanding of topic.
23. To admit limits of own medical knowledge and experience.
24. To emphasize promptness for teaching sessions.
25. To provide for student participation in the instructional process.

Secondary Instructional Strategy: Performance Exercise

3. To check selected elements of student work-up by interviewing or examining patient in presence of students.
10. To ask for a "problem listing" on the patient.
11. To ask student to differentiate between essential and non-essential data.
12. To ask questions which make student use deductive reasoning.
15. To point out student's missed observations.
16. To respond enthusiastically to questions.

TABLE 10
(Page 10)

Secondary Instructional Strategy: Performance Exercise (continued)

Objectives:

17. To encourage students while they are performing procedures.

18. To give positive verbal reinforcement on clinical performance.

19. To assess and focus on level of student understanding of topic.

20. To ask students for feedback and suggestions for improving learning experience on the service.

21. To convey a tolerance for uncertainty in medical problems.

22. To demonstrate an interest in the students' efforts to learn.

24. To emphasize promptness for teaching sessions.

25. To provide for student participation in the instructional process.

27. To demonstrate critical appraisal of lab data, and consultant recommendations.

28. To encourage students to evaluate critically lab data, consultant recommendations, etc.

Secondary Instructional Strategy: Programmed Instruction

12. To ask questions which make student use deductive reasoning.

Secondary Instructional Strategy: Tutoring

5. To relate educational reading material to a current patient.

17. To encourage students while they are performing procedures.

TABLE 10
(Page 11)

Secondary Instructional Strategy: Combination Instruction

Objectives:

9. To explain incorrect responses to questions.

13. To ask student for successive management steps.

20. To ask students for feedback and suggestions for improving learning experience on the service.

TABLE 10
(Page 12)

DISCIPLINE: DENTISTRY (Priority I)

Primary Instructional Strategy: Lecture

Objectives:

1. To explain to students what they are expected to learn from the instruction presented.
2. To use audiovisual aids or 2-or 3-dimensional aids (when appropriate) in describing techniques or concepts that are different.
3. To summarize the tasks that are necessary in order to accomplish the objective(s).
5. To demonstrate skill of explaining estimates of expenses to patients.
7. To demonstrate the use of a planned variety of instructional activity (e.g., questioning, demonstration, etc.).
8. To identify a student's strengths/weaknesses in his current skill level.
11. To provide students with a systematic evaluation of their progress.
12. To summarize important points.
13. To plan for discussion time during instruction.

Primary Instructional Strategy: Conference

4. To establish a time frame necessary for students to accomplish the objective(s).
13. To plan for discussion time during instruction.
14. To demonstrate one's perceptiveness to students' problems.

Primary Instructional Strategy: Demonstration

2. To use audiovisual aids or 2 or 3 dimensional aids (when appropriate) in describing techniques or concepts that are different.

TABLE 10
(Page 13)

Primary Instructional Strategy: Demonstration (continued)

Objectives:

5. To demonstrate skill or explaining estimates of expenses to patients.

9. To ask students for positive or negative comments on suggested techniques (procedures).

   To ask students to comment on specific procedures during treatment.

   To ask student to participate in his learning by discussing, i.e., procedures, etc.

   To ask student to define questions which need to be asked to acceptably resolve a patient's treatment or management problems.

   To ask students to identify strengths and weaknesses in their own performance.

10. To describe requisite behavior prior to a student beginning a procedure.

Primary Instructional Strategy: Performance Exercise

9. To ask students for positive or negative comments on suggested techniques (procedures).

   To ask students to comment on specific procedures during treatment.

   To ask student to participate in his learning by discussing, i.e., procedures, etc.

   To ask student to define questions which need to be asked to acceptably resolve a patient's treatment or management problems.

   To ask students to identify strengths and weaknesses in their own performance.

Secondary Instructional Strategy: Lecture

10. To describe requisite behavior prior to a student beginning a procedure.

TABLE 10

(Page 14)

Secondary Instructional Strategy: Conference

Objectives:

1. To explain to students what they are expected to learn from the instruction presented.
2. To use audiovisual aids or 2-or 3-dimensional aids (when appropriate) in describing techniques or concepts that are different.
3. To summarize the tasks that are necessary in order to accomplish the objective(s).
5. To demonstrate skill of explaining estimates of expenses to patients.
7. To demonstrate the use of a planned variety of instructional activity (e.g., questioning, demonstration, etc.).
8. To identify a student's strengths/weaknesses in his current skill level.
10. To describe requisite behavior prior to a student beginning a procedure.
11. To provide students with a systematic evaluation of their progress.
12. To summarize important points.

Secondary Instructional Strategy: Demonstration

4. To establish a time frame necessary for students to accomplish the objective(s).
13. To plan for discussion time during instruction.
14. To demonstrate one's perceptiveness to students' problems.

Secondary Instructional Strategy: Performance Exercise

1. To explain to students what they are expected to learn from the instruction presented.
4. To establish a time frame necessary for students to accomplish the objective(s).

TABLE 10
(Page 15)

Secondary Instructional Strategy: Performance Exercise (continued)

Objectives:

5. To demonstrate skill of explaining estimates of expenses to patients.

6. To exhibit one's ability to follow up students.

11. To provide students with a systematic evaluation of their progress.

14. To demonstrate one's perceptiveness to students' problems.

Secondary Instructional Strategy: Study Assignment

3. To summarize the tasks that are necessary in order to accomplish the objective(s).

Secondary Instructional Strategy: Combination Instruction

7. To demonstrate the use of a planned variety of instructional activity (e.g., questioning, demonstration, etc.).

8. To identify a student's strengths/weaknesses in his current skill level.

9. To ask students for positive or negative comments on suggested techniques (procedures).

   To ask students to comment on specific procedures during treatment.

   To ask student to participate in his learning by discussing, i.e., procedures, etc.

   To ask student to define questions which need to be asked to acceptably resolve a patient's treatment or management problems.

   To ask students to identify strengths and weaknesses in their own performance.

TABLE 10
(Page 16)

DISCIPLINE: DENTISTRY (Priority II)

Primary Instructional Strategy: Lecture

Objectives:

2. To clarify patient management problems.

3. To explain the rationale for a particular treatment modality.

5. To explain alternate treatment plans to student.

Primary Instructional Strategy: Conference

4. To demonstrate clinical procedures at a rate of speed appropriate to the students' needs.

6. To ask student if assistance is needed before beginning the procedure.

   To ask student to describe course of treatment.

12. To explain practical approaches to the management of patient problems in ways that are clearly understood by the student.

Primary Instructional Strategy: Demonstration

1. To demonstrate the proper use of instruments and equipment.

7. To explain patient care decisions to students.

Primary Instructional Strategy: Performance Exercise

6. To ask student if assistance if needed before beginning the procedure.

   To ask student to describe course of treatment.

7. To explain patient care decisions to students.

8. To demonstrate ability to actively listen to student.

   To restate, reflect, or clarify student's explanation.

   To demonstrate ability to provide reinforcement when a student responds to a question.

TABLE 10
(Page 17)

Primary Instructional Strategy: Performance Exercise (continued)

Objectives:

9. To consult with students regarding their progress on procedures.

   To demonstrate empathy to students when appropriate.

10. To allow time for student to express differing opinions.

11. To encourage students to ask questions.

Primary Instructional Strategy: Combination Instruction

12. To explain practical approaches to the management of patient problems in ways that are clearly understood by the student.

Secondary Instructional Strategy: Conference

1. To demonstrate the proper use of instruments and equipment.

2. To clarify patient management problems.

7. To explain patient care decisions to students.

8. To demonstrate ability to actively listen to student.

   To restate, reflect, or clarify students' explanation.

   To demonstrate ability to provide reinforcement when a student responds to a question.

9. To consult with students regarding their progress on procedures.

   To demonstrate empathy to students when appropriate.

10. To allow time for student to express differing opinions.

11. To encourage students to ask questions.

Secondary Instructional Strategy: Demonstration

4. To demonstrate clinical procedures at a rate of speed appropriate to the students' needs.

TABLE 10

Secondary Instructional Strategy: Demonstration (continued)

Objectives:

6. To ask student if assistance is needed before beginning the procedure.

8. To demonstrate ability to actively listen to student.

   To restate, reflect, or clarify student's explanation.

   To demonstrate ability to provide reinforcement when a student responds to a question.

Secondary Instructional Strategy: Performance Exercise

1. To demonstrate the proper use of instruments and equipment.

4. To demonstrate clinical procedures at a rate of speed appropriate to the students' needs.

12. To explain practical approaches to the management of patient problems in ways that are clearly understood by the student.

Secondary Instructional Strategy: Study Assignment

4. To demonstrate clinical procedures at a rate of speed appropriate to the students' needs.

5. To explain alternate treatment plans to student.

Secondary Instructional Strategy: Combination Instruction

3. To explain the rationale for a particular treatment modality.

5. To explain alternate treatment plans to student.

7. To explain patient care decisions to students.

8. To demonstrate ability to actively listen to student.

   To restate, reflect, or clarify student's explanation.

   To demonstrate ability to provide reinforcement when a student responds to a question.

11. To encourage students to ask questions.

TABLE 10
(Page 19)

DISCIPLINE: NURSING (Priority I)

Primary Instructional Strategy: Lecture

Objectives:

1. To select appropriate teaching aids.

3. To involve agency staff in planning learning experiences.

Primary Instructional Strategy: Conference

4. To assist agency staff in evaluating learning experiences.

5. To question students to determine students' understanding of objectives of the clinical experience.

6. To question students to assess students' understanding of the planned completed clinical experience in terms of the relationship to the unit being studied.

7. To assist students in understanding the contributions of other health team members to client care.

9. To explain relationships between clinical assignment and educational objectives.

12. To remain objective in student evaluation.

13. To remain perceptive to student needs and problems.

15. To organize teaching strategies to achieve specified goals.

17. To assist students in understanding issues which affect the profession of nursing.

Primary Instructional Strategy: Performance Exercise

10. To maintain notes for reporting and discussing student progress after each clinical experience.

11. To observe condition of client assigned to each student with an eye to client-related barriers which may inhibit student from meeting delineated instructional objectives.

14. To identify realistic expectations regarding student performance.

16. To assist students in seeking client's contribution in developing a health care plan.

TABLE 10
(Page 20)

Primary Instructional Strategy: Study Assignment

Objectives:

2. To demonstrate, with student as observer, client teaching and assessment (presenting behaviors and history).

4. To assist agency staff in evaluating learning experience.

8. To help students apply research findings.

12. To remain objective in student evaluation.

13. To remain perceptive to student needs and problems.

14. To identify realistic expectations regarding student performance.

15. To organize teaching strategies to achieve specified goals.

Secondary Instructional Strategy: Lecture

4. To assist agency staff in evaluating learning experiences.

5. To question students to determine students' understanding of objectives of the clinical experience.

7. To assist students in understanding the contributions of other health team members to client care.

9. To explain relationships between clinical assignment and educational objectives.

17. To assist students in understanding issues which affect the profession of nursing.

Secondary Instructional Strategy: Conference

1. To select appropriate teaching aids.

3. To involve agency staff in planning learning experiences.

8. To help students apply research findings.

Secondary Instructional Strategy: Demonstration

16. To assist students in seeking client's contribution in developing a health care plan.

TABLE 10
(Page 21)

Secondary Instructional Strategy: Performance Exercise

Objectives:

2. To demonstrate, with student as observer, client teaching and assessment (presenting behaviors and history).

5. To question students to determine students' understanding of objectives of the clinical experience.

6. To question students to assess students' understanding of the planned completed clinical experience in terms of the relationship to the unit being studied.

7. To assist students in understanding the contributions of other health team members to client care.

8. To help students apply research findings.

Secondary Instructional Strategy: Study Assignment

1. To select appropriate teaching aids.

5. To question students to determine students' understanding of objectives of the clinical experience.

6. To question students to assess students' understanding of the planned completed clinical experience in terms of the relationship to the unit being studied.

9. To explain relationships between clinical assignment and educational objectives.

10. To maintain notes for reporting and discussing student progress after each clinical experience.

11. To observe condition of client assigned to each student with an eye to client-related barriers which may inhibit student from meeting delineated instructional objectives.

17. To assist students in understanding issues which affect the profession of nursing.

Secondary Instructional Strategy: Combination Instruction

13. To remain perceptive to student needs and problems.

TABLE 10
(Page 22)

DISCIPLINE: NURSING (Priority II)

Primary Instructional Strategy: Conference

Objectives:

2. Demonstrate, with student as observer, relationships with other health team members.

7. To involve agency staff in implementing learning experiences.

8. To provide examples to highlight and clarify content.

11. To question students to encourage students to identify and verbalize their own feelings about the patient, his condition, and the care the student gave the client.

14. To summarize outcomes of learning experiences for students.

15. To facilitate communications between students and other health care professionals.

17. To review with students their preparation for the clinical experience.

19. To observe progress toward meeting instructional objectives made by students assigned to "difficult" clients.

21. To discuss ethical issues of patient care with students.

Primary Instructional Strategy: Demonstration

2. Demonstrate, with student as observer, relationships with other health team members.

Primary Instructional Strategy: Performance Exercise

3. To demonstrate effective clinical nursing technique.

5. To demonstrate nursing care rather than tell about it.

9. To question students to assess students' ability to identify various client manifestations as examples of particular physiological or psychological conditions about which the student should know.

TABLE 10
(Page 23)

Primary Instructional Strategy: Performance Exercise (continued)

Objectives:

10. To question students to determine students' knowledge regarding the acceptable limits of "normalcy" in client condition.

11. To question students to encourage them to identify and verbalize their own feelings about the patient, his condition, and the care the student gave the client.

12. To question students to assess their ability to correctly interpret laboratory charts or equipment data.

13. To discuss student objectives for clinical care.

16. To maintain a listing of students' learning experiences.

18. To encourage students to consider alternative approaches to client problems.

20. To allow students to select learning experiences within appropriate limits.

Primary Instructional Strategy: Study Assignment

4. To respond succinctly to questions.

6. To select clinical experiences that require students to use decision-making skills.

19. To observe progress toward meeting instructional objectives made by students assigned to "difficult" clients.

Secondary Instructional Strategy: Lecture

15. To facilitate communications between students and other health care professionals.

16. To maintain a listing of students' learning experiences.

21. To discuss ethical issues of patient care with students.

TABLE 10
(Page 24)

Secondary Instructional Strategy: Conference

Objectives:

1. To demonstrate, with student as observer, interpersonal relationships with clients.
3. To demonstrate effective clinical nursing techniques.
4. To respond succinctly to questions.
5. To demonstrate nursing care rather than tell about it.
6. To select clinical experiences that require students to use decision-making skills.
9. To question students to assess students' ability to identify various client manifestations as examples of particular physiological or psychological conditions about which the student should know.
10. To question students to determine students' knowledge regarding the acceptable limits of "normalcy" in client condition.
12. To question students to assess their ability to correctly interpret laboratory charts or equipment data.
13. To discuss student objectives for clinical care.
18. To encourage students to consider alternative approaches to client problems.
20. To allow students to select learning experiences within appropriate limits.

Secondary Instructional Strategy: Performance Exercise

1. To demonstrate, with student as observer, interpersonal relationships with clients.
4. To respond succinctly to questions.
6. To select clinical experiences that require students to use decision-making skills.
14. To summarize outcomes of learning experiences for students.
15. To facilitate communications between students and other health care professionals.

TABLE 10
(Page 25)

Secondary Instructional Strategy: Study Assignment

Objectives:

2. Demonstrate, with student as observer, relationships with other health team members.
3. To demonstrate effective clinical nursing techniques.
7. To involve agency staff in implementing learning experiences.
8. To provide examples to highlight and clarify content.
9. To question students to assess students' ability to identify various client manifestations as examples of particular physiological or psychological conditions about which the student should know.
10. To question students to determine students' knowledge regarding the acceptable limits of "normalcy" in client condition.
11. To question students to encourage students to identify and verbalize their own feelings about the patient, his condition, and the care the student gave the client.
12. To question students to assess their ability to correctly interpret laboratory charts or equipment data.
13. To discuss student objectives for clinical care.
16. To maintain a listing of students' learning experiences.
17. To review with students their preparation for the clinical experience.
20. To allow students to select learning experiences within appropriate limits.
21. To discuss ethical issues of patient care with students.

Secondary Instructional Strategy: Tutoring

8. To provide examples to highlight and clarify content.

DATA COLLECTION AND ANALYSES

INTRODUCTION

The establishment of a consortium of five coordinated health science institutions, each administered autonomously, contributed significantly to the uniqueness in studying clinical teaching behaviors and activities. The consortium was equally representative of colleges (schools) of Medicine, Dentistry, and Nursing. The objectives of the consortium were:

OBJECTIVE 1: To independently and collectively, generate, assess, and approve a comprehensive listing of teaching skills, activities and strategies that represent an approximation of observed and representative behaviors in determining the "state of the art" in clinical science teaching.

OBJECTIVE 2: To determine the representation of schools to be included in the assessment of the "state of the art" according to specific criteria a) geographic location, b) size of the student body, and whether the institution was a public or private school.

OBJECTIVE 3: To review, comment, and approve the analytic description of the "state of the art" of clinical teaching skills and strategies as performed and/or observed by clinical science faculty in medicine, dentistry, and nursing through student input via Critical Incident Technique reports.

OBJECTIVE 4: As the "state of the art" data was being analyzed, the advisory group (consortium members) met, as a study team, to develop an "expected performance model" description of clinical teaching skills and strategies necessary for effective instruction.

OBJECTIVE 5: Utilizing the "state of the art" report (National Survey of Clinical Teaching Skills) and the "expected or ideal performance model" of clinical science teaching behaviors, consortium members developed, reviewed, and approved a discrepancy model describing the differences in skills and strategies between the "state of the art" and the "ideal" model.

OBJECTIVE 6: The consortium members collectively recommended plans for discrepancy resolution by developing behavioral objectives, activities, and instructional strategies. Four principal questions were formulated and addressed in this study on clinical teaching skills.

1. What is the "state of the art" in clinical science teaching in Medicine, Dentistry, and Nursing?
2. What constitutes the "ideal" clinical teaching skills model within each discipline?
3. What specific observable clinical teaching practices (activities and/or instructional strategies) are being utilized within and across each discipline that maximizes the students' achievement of instructional objectives.
4. How are these clinical teaching skills i.e., activities, orchestrated to produce primary and secondary (alternative)

instructional strategies for faculty development activities?

With the preceding four questions in mind, the study progressed according to six phases:

Phase I. Organizational planning and preparation for the development of the National Survey of Clinical Teaching.

Phase II. Modified Delfi technique was utilized to assess the "state of the art" (actual) and development of the "expected" (ideal) teaching model.

Phase III. A discrepancy model was developed based upon the results of the National Survey.

Phase IV. Assessment of "actual" and "ideal" performance statements in preparation for consortium development of instructional objectives and activities with each discipline.

Phase V. In a process that led to the selection of alternative instructional strategies, based upon congruence as a criterion, objectives and teaching activities were compared within each discipline in preparation of selecting "optimal" teaching strategies or plans.

Phase VI. Identification of an "optimal" clinical teaching plan in Medicine, Dentistry and Nursing.

The following pages of this chapter will be devoted to reporting data collection and analyses as a result of the study.

RESULTS

Each of the five institutions participated in observing clinical teaching with a total of 204 observations reported (Medicine 62, Dentistry 57, Nursing 165). The observations and Critical Incident reports yeilded 816 statements concerning clinical teaching behaviors (Medicine 322, Dentistry 307, Nursing 270). After initial editing the lists were reduced as follows: Medicine 256, Dentistry 210, and Nursing 187. These lists were then submitted to the consortium for their response. The task of item reduction occurred at their institutions prior to the first consortium meeting in Columbus. The edited listing included 191 items for Medicine, 156 items for Dentistry, and 135 items for Nursing. The items were placed on a grid so that it was possible to identify the statements origin and other relevant information.

For each of the three disciplines the following locales or settings were identified. In addition, the number of statements relative to that locale or setting are provided. Since the statements reflect actively in one or more settings or locales the numbers of statements for all settings and locales, excede the total number of statements.

Medicine Teaching Sites	Number of Statements
In Patient Attending Rounds	103
Out Patient Clinic	48
Lecture	104
Grand Rounds	86
Case Conference	122
Emergency Room	8
Mortality Conference	4
Patient Rounds	151

Medicine Teaching Sites	Number of Statements
Hospital Office	2
Teaching Laboratory	2
Fourth Year Surgery	14
Third Year Medicine	27
Radiology Service	10
Family Medicine Services (first year resident)	9
Oral Examination one-on-one	11
Internal Medicine (first year resident)	9

Dentistry Teaching Sites	Number of Statements
Clinic Laboratory	41
General Laboratory	21
Lecture Room	16
Fourth Year Pediatric Dentistry Clinic	42
Fourth Year Restorative Clinic	64
Third Year Restorative Clinic	50
Fourth Year Oral Surgery Clinic	12
Second Year Endodontics Clinic	15
Second Year Periodontics Clinic	14
Fourth Year Periodontics Clinic	43
Fourth Year Oral Diagnosis Clinic	36
Admissions Clinic	5
Dental Auxilliary Utilizaties Clinic	7
Comprehensive Patient Care Clinic	11

Dentistry Teaching Sites	Number of Statements
Removable Prosthetics Clinic	35
Patient Operating	37
Clinic Conference Room	19
Hallway in Clinic Area	5

Nursing Teaching Sites	Number of Statements
Nursing Station	18
Nurses Conference Room	11
Hallway of Nursing Unit	11
Individual Patient	27
Medication Room	4
Conference Room (Clinical)	43
Pediatric Clinic	14
Acute Care Unit	33
Primary Care Clinic	16
Primary Care - HMB	6
Physical Therapy Unit	3
Center for Handicapped Children (bedside)	7
Center for Handicapped Children (classroom)	4
Home Visit - Community	4

These statements were derived from direct observation of clinical faculty. The distribution of faculty by discipline, years in teaching, and academic rank, and student level taught, are reported in Figures 12, 13, and 14.

FIGURE 12

DISTRIBUTION OF FACULTY BY PROFESSIONAL RANK

Medicine, Dentistry and Nursing

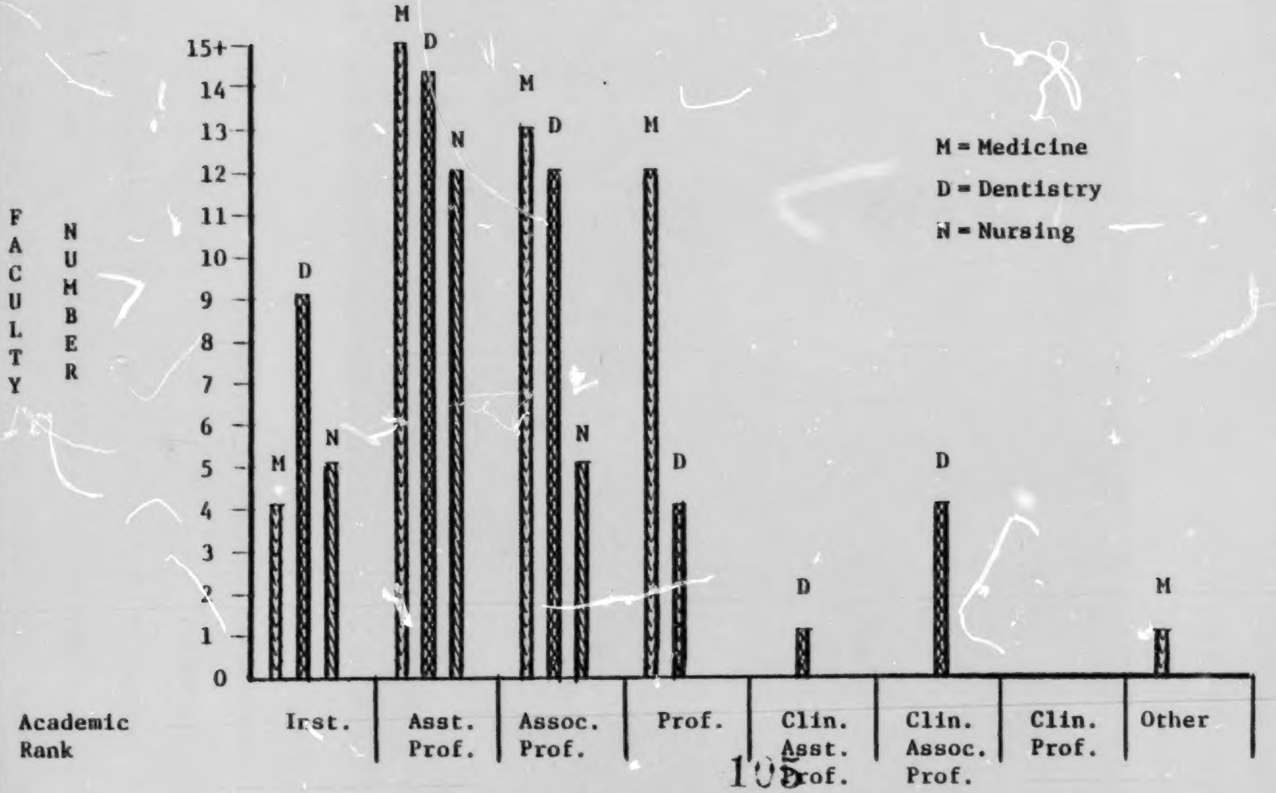

FIGURE 13

YEARS IN TEACHING BY FACULTY IN MEDICINE, DENTISTRY & NUSRING

(Observed Clinical Teaching Faculty)

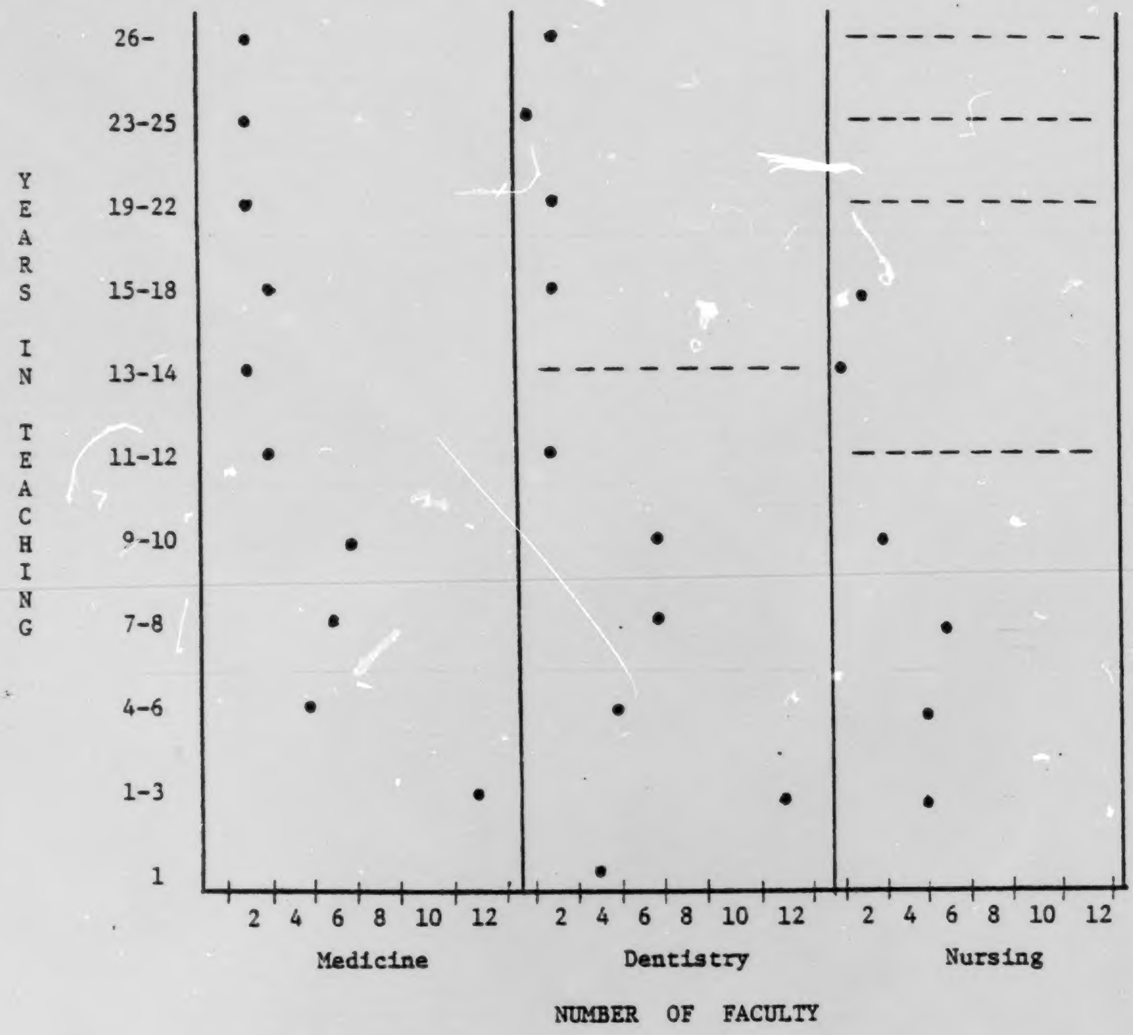

FIGURE 14

EDUCATIONAL LEVEL OF STUDENTS TAUGHT IN MEDICINE, DENTISTRY, AND NURSING

	NUMBERS OF TEACHING FACULTY		
PROFESSIONAL LEVEL TAUGHT	Medicine N=47	Dentistry N=44	Nursing N=22
First	4	4	1
Second	0	4	1
Third	15	13	11
Third & Fourth	15	-0-	-0-
Fourth (Clinics)	13	23	9

Observations of clinical skills teaching were obtained from a wide range of experiences and from varied situations. The academic ranks are well distributed in the three professions. Given a good distribution in rank, there was found a wide diveristy of the years the clinical teacher taught. Dentistry's range was one month to thirty years as a dental educator with a mean of 8 years. Medicine posted a range of 1 to 30 years with a mean of approximately 10 years. Nursing educator's range as teacher's was 1 to 17 years with a mean of 7 years in Nursing Education.

Observations focused on the "clinical" years in the students' education and the third and fourth year students where students experience more direct patient care. The identification of settings permitted the staff to make decisions concerning the survey instrument.

MEDICINE

Surveys were returned by 256 medical school faculty (return rate = 83.9%). Of this number, 15 (or 5.8%) were eliminated from the study because of 5% or more missing data. No patterns were noted in these 15 surveys or in the missing data in the remaining surveys. Therefore, no further inspection concerning missing data was conducted. Refer to Appendix H. Survey Return Data: Medicine, Dentistry, and Nursing.

Data on the respondent information sheet was collected to provide a description of the subjects responding to the survey. This descriptive data helps to verify the representativeness of the sample. Appendix I. summarizes this data for the five areas; academic rank, academic time commitment, percentage of time given to clinical instruction, clinical teaching experience, and activities participated in to improve teaching skills.

Few respondents were instructors; there were nearly one-third each at the assistant professor, associate professor, and professor levels. Of the faculty, 77% indicated an academic commitment of 4 days or more per week with slightly less than half of this time devoted to clinical instruction. Only 5% had less than 2 years clinical teaching experience while 73% had more than 5 years of such experience. Approximately 70% had participated, during the past 3 years, in the activities of workshops or seminars, professional meetings, and reading educational journals for the specific purpose of improving their teaching skills. However, during this same time, only a little more than one in four faculty members had taken formal course work in the area of teaching skills.

In addition to these frequency distributions, the descriptive data was crosstabbed with the stratification variables (type of support, geographic region, and size) to determine if there were systematic differences due to these variables. Tables for the analyses which indicated significant differences are given in Appendix J.

Several differences are associated with type of support. A greater percentage, 77% to 60%, of public school faculty have a full-time (5 days per week) academic time commitment. Faculty from public schools are more likely to attend workshops. Two differences are related to geographic region. The western schools have a greater percentage of full-time faculty, but since the western region had only 40 responses and the probability level is borderline ($p = .046$), this result should be interpreted with caution. The faculty from eastern schools have more clinical teaching experience with over 80% having more than 5 years experience. No differences were found which were related to size of schools.

Each faculty member was asked to indicate the type of teaching encounter that best typified his/her clinical teaching. The encounters with percentage responses are small group seminars (31%), patient rounds (26%), case presentations with students (17%), one-to-one interactions with students (16%), and lecturing to students (10%). Crossing these frequencies with the descriptive variables identified one difference. A greater percentage of full-time faculty indicated one-to-one interactions as their teaching encounter while a greater percentage of part-time faculty indicated lecturing as their teaching encounter.

Since many of the analyses for the survey proper were to be multivariate, it was necessary that the 231 retained surveys have a valid response for each item on both the actual and the ideal scales. Subjects seem to have occasionally overlooked a response such as the last item on a page or at the end of a section. The mean response of all non-missing values was calculated for each item and all missing responses were filled in with the integer value closest to the mean response for that item. This allowed retention of all but the previously eliminated 14 surveys and yet is a conservative approach in relation to the statistical analyses to follow. In all, only 0.25% of the total data points were filled in by this manner.

Factor analyses were performed to validate the predetermined subscales of the survey and/or identify other subscales. One analysis was conducted on the "actual" scale and a parallel analysis on the "ideal" scale. For both scales, most of the item inter-correlations were moderate; 80-85% were in the .10 to .39 range. A frequency distribution of these inter-correlations is given in Appendix K. Varying numbers of factors were inspected following orthogonal rotations, but with the moderate inter-correlations, no clear-cut solution emerged. In fact, most items loaded rather high on a one-factor solution; these loadings are given in Appendix K. On the actual scale, 95% of the items had loadings of .3 or better and almost 60% had loadings above .5. On the ideal scale, 99% had loadings of .3 or better while 70% met or exceeded the .5 loading value. For both scales, any factor beyond the first explained about 5% or less of the variance.

As with dentistry, there seemed to be one general factor but no statistical verification of specific subscales. Again it was decided to retain the original item groupings, as had been previously determined by the consortium's content analyses, for use in the next step.

To describe the "state of the art", means and standard deviations were calculated for each of the 76 items on the "actual" scale. Results are given in Appendix L. The mean of the 76 item means is 2.45 which is slightly below the midpoint (2.5) of the "often" (2.0) and the "sometimes" (3.0) categories. Thus the items as a whole seem to reflect current teaching practices in medicine.

Item #4, "review and criticize the presentation of a guest lecturer," had a mean of 3.95 indicating that it was not done very often. Five other items have means between 3.0 and 3.5 indicating that they are probably done less than 50% of the time. Four of these items are in the presentation and providing skills while the fifth was a questioning skill.

Before beginning the development of the discrepancy model, analyses were performed to determine if any of the stratification variables were related to the items on either the actual or the ideal scales. For each of the four skill groupings, 3 one-way MANOVA's were performed using, in turn, each of the stratification variables as a factor. Multivariate analyses were employed as one means to partially protect the overall type I error rate.

Only 3 of the multivariate F's were significant out of 24. In addition, only seven items accounted for these differences. Results are given in Appendix M . The number of differences is small and, other than the fact that four of the differences are associated with size of school and came from the ideal scale of the first skill grouping, no patterns emerged. These analyses indicated that responses to the survey items were similar across all levels of the stratification variables. Hence it was deemed unnecessary to consider these variables further in the development of the discrepancy model.

Means and standard deviations for each item on the ideal scale are reported in Appendix L. beside the previously mentioned data for the actual scale. The mean of the 76 ideal item means is 1.65 indicating that respondents feel that the survey reflects skills that should be utilized often to almost always in clinical instruction. Every item except one (again item #4) had a mean below 2.5 suggesting that the utilization level should be at least 65% of the time. For each item, the ideal mean is lower than the actual mean, indicating that the skill should be utilized more than it presently is. Matched t-tests verified that each of these actual-ideal differences was significant ($p < .001$). In addition, the correlation of the 76 actual means with the ideal means is .72.

One "discrepancy model" then is that utilization is significantly less than ideal for each skill. For a more practical approach, in terms of time and financial constraints, a method was needed to identify the skills in greatest need of improvement. A simple rank order of the differences was not totally acceptable since it depends heavily on the scale positions from which they were derived. Thus a 3-dimensional analysis was devised. The mean difference was .80 with a standard deviation of .27. All items with differences more than half a standard deviation above the mean difference [.80 + 1/2 (.27) = .93] were classified as high difference items; items more than half a standard deviation below the mean were classified as low difference items. On the actual and ideal scales items were classified as high (1.00 - 1.99), medium (2.00 - 2.99), and low (3.00 - 3.99). Thus each item fell into one cell of a 3 x 3 x 3 grid. Results are given in Appendix N.

An item was called Priority 1 if its actual classification was lower then its ideal classification and it was a high difference item; similarly for Priority 2 except medium difference and for Priority 3 except low difference. Items with the same actual and ideal classification were given the lowest rating, Priority 0, regardless of the difference classification. Appendix 0. gives the percent of items in each priority by each skill grouping. Many of the questioning skills items received low priorities indicating the faculty felt less of a discrepancy between actual and ideal in this grouping. Conversely, many of the attending skills items received high priorities indicating this grouping was felt to have the greatest discrepancy between actual and ideal.

DENTISTRY

Of the 219 surveys returned from the dental faculty, 4 were not usable, 6 (or 2.7% of the total) were eliminated from further analyses due to missing responses on 5% or more of the items. For the remaining 209 surveys, missing responses were identified to check for patterns that might select certain items on either the actual or ideal scale that were often left blank. No such patterns were identified. Since the visual inspection revealed no cause for concern and since the number of surveys eliminated was small, no statistical comparisons were made of surveys eliminated to surveys retained. Refer to Appendix H. Survey Return Data: Medicine, Dentistry, and Nursing.

Data on the respondent information sheet was collected to provide a description of the subjects responding to the survey. This descriptive data helps to verify the representativeness of the sample. Appendix II. summarizes this data for the 5 areas; academic rank, academic time commitment, percentage of time given to clinical instruction, clinical teaching experience, and activities participated in to improve teaching skills.

Academic rank was rather evenly split among professor, associate professor and assistant professor with only 8% at the instructor level. Most of the faculty (86%) indicated an academic commitment of 4 days or more per week with better than half of this time devoted to clinical instruction. Only 3% had less than 2 years clinical teaching experience while 70% had more than 5 years of such experience. Approximately 90% had participated, during the past 3 years, in the activities of workshops or seminars, professional meetings, and reading educational journals for the specific purpose of improving their teaching skills. However during this same time, only a little more than one in three faculty members had taken formal course work in the area of teaching skills.

In addition to these frequency distributions, the descriptive data was crosstabbed with the stratification variables (type of support, geographic region, and size) to determine if there were systematic differences due to these variables. Tables for the analyses which indicated significant differences are given in Appendix JJ.

The only difference associated with type of support was that priviate schools use more part-time (less than 4 days) clinical faculty. There were no differences related to geographic region. Several differences were related to size of school. Larger schools have a more senior faculty (in terms of academic rank) and a faculty with more clinical teaching experience. While most faculty of both larger schools (95%) and smaller schools (83%) attend professional meetings to improve teaching skills, the percentage is significantly higher for the larger schools. Exactly the same percentages hold for reading educational journals.

Each faculty member was asked to indicate the type of teaching encounter that best typified his/her clinical teaching. The encounters with percentage responses are one-to-one with student and patient in operatory (68%), student groups on clinic floor (15%), one-to-one with student (10%), and lecture setting as adjunct to clinic experience (7%). Analyses of this variable, type of encounter, with the descriptive variables indicated no significant differences.

Since many of the analyses for the survey proper were to be multivariate, it was necessary that the 209 retained surveys have a valid response for each item on both the actual and the ideal scales. Subjects seem to have occasionally overlooked a response such as the last item on a page or at the end of a section. The mean response of all non-missing values was calculated for each item and all missing responses were filled in with the integer value closest to the mean response for that item. This allowed retention of all but the previously eliminated 6 surveys and yet is a conservative approach in relation to the statistical analyses to follow. In all, only 0.36% of the total data points were filled in by this manner.

Factor analyses were performed to validate the predetermined subscales of the survey and/or identify other subscales. One analysis was conducted on the actual scale and a parallel analysis on the ideal scale. For both scales, most of the item inter-correlations were moderate; about 85% were in the .10 to .39 range. A frequency distribution of these inter-correlations is given in Appendix KK. Varying numbers of factors were inspected following orthogonal rotations, but with the moderate inter-correlations, no clear-cut solution emerged. In fact most items loaded rather high on a one-factor solution; these loadings are given in Appendix KK. From the actual scale, all items had loadings of .3 or better and 75% had loadings above .5. From the ideal scale, 97% had loadings above .3 and 39% had loadings above .5. For both scales, any factor beyond the first explained 5% or less of the variance.

Thus there seemed to be one general factor but no statistical verification of specific subscales. It was decided to retain the original item groupings, as had been previously determined by the consortium's content analyses, for use in the next step.

To describe the state of the art, means and standard deviations were calculated for each of the 61 items on the actual scale. Results are given in Appendix LL. The mean of the 61 item means is 2.40 which is slightly below the midpoint (2.5) of the "often" (2.0) and the "sometimes" (3.0) categories. Thus the items as a whole seem to reflect current teaching practices.

Only one item, #17 - demonstrate skill of explaining estimates of expenses to patients, has a mean greater than 3.5 which signifies that it is not done very often. Six other items have means between 3.0 and 3.5 indicating that they are probably done less than 50% of the time. Of these seven items, three are in the first grouping (presentation and providing skills) and the other four are in the second grouping (questioning skills).

Before beginning the development of the discrepancy model, analyses were performed to determine if any of the stratification variables were related to the items on either the actual or the ideal scales. For each of the four skill groupings, 3 one-way MANOVA's were performed using, in turn, each of the stratification variables as a factor. Multivariate analyses were employed as one means to partially protect the overall type I error rate.

Only 4 of the multivariate F's were significant out of 24. In addition only six items accounted for these differences. With the small number of differences, no patterns were evident other than that all of the differences were on the actual scale. These analyses indicated that responses to the survey items were similar across all levels of the stratification variables. Hence it was deemed unnecessary to consider these variables further in the development of the discrepancy model.

Means and standard deviations for each item on the ideal scale are reported in Appendix LL beside the previously mentioned data for the actual scale. The mean of the 61 ideal item means is 1.65 indicating that respondents feel that the survey reflects skills that should be utilized "often to almost always" in clinical instruction. Every mean was below 2.5 indicating that every skill should be used at least 65% of the time. For each item, the ideal mean is lower than the actual mean, indicating that the skill should be utilized more than it presently is. Matched t-tests verified that each of these actual-ideal differences was significant ($p < .001$). In addition, the correlation 61 actual item means with the ideal means is .87.

One "discrepancy model" then is that utilization is significantly less than ideal for each skill. For a more practical approach, in terms of time and financial constraints, a method was needed to identify the skills in greatest need of improvement. A simple rank order of the differences was not totally acceptable since it depends heavily on the scale positions from which they were derived. Thus a 3-dimensional analysis was devised. The mean difference was .75 with a standard deviation of .25. All items with differences more than half a standard deviation above the mean difference (.75 + 1/2 [.25] = .88) were classified as high difference items; items more than half a standard deviation below the mean were classified as low difference items. On the actual and ideal scales items were classified as high (1.00-1.99) medium (2.00-2.99), and low (3.00-3.99). Thus each item fell into one cell of a 3x3x3 grid. Results are given in Appendix NN.

An item was called Priority 1 if its actual classification was lower than its ideal classification and it was a high difference item; similarly for Priority 2 except medium difference and for Priority 3 except low difference. Items with the same actual and ideal classification were given the lowest rating, Priority 0, regardless of the difference classification. Appendix OO. gives the percent of items in each priority by each skill grouping. Significantly more of the items from skill grouping D (teaching styles/attitudes) received low priorities. This indicates the respondents felt that actual teaching skills more nearly reached ideal levels in this area than in the other three. The remainder of the project focused on the Priority 1 and Priority 2 items.

NURSING

Of the 672 surveys returned from the nursing faculty, 25 (or 3.6% of the total) were eliminated from further analyses due to missing responses on 5% or more of the items. For the remaining 647 surveys, missing responses were checked for patterns that might identify certain items on either the actual or ideal scale that were often left blank. No such patterns were identified. Since the visual inspection revealed no cause for concern and since the number of surveys eliminated was small, no statistical comparisons were made of surveys eliminated to surveys retained. Refer to Appendix H. Survey Return Data: Medicine, Dentistry, and Nursing.

Data on the respondent information sheet was collected to provide a description of the subjects responding to the survey. This descriptive data helps to verify the representativeness of the sample. Appendix III. summarizes this data for the five areas; academic rank, academic time commitment, percentage of time given to clinical instruction, clinical teaching experience, and activities participated in to improve teaching skills.

Almost half of the respondents were assistant professors, one-third were instructors, and about one-fifth were associate professors. Only 1% were full professors. A full-time (5 days/ week) academic commitment was indicated by 84% of the faculty. Percentage of time devoted to clinical instruction centered around 50%. In terms of clinical teaching, 55% had more than five years experience, 35% had two to five years, and 10% had less than two years. A range of 80% to 95% had participated, during the past three years, in the activities of workshops or seminars, professional meetings, and reading educational journals for the specific purpose of improving their teaching skills. Additionally, two-thirds had taken formal course work relating specifically to teaching skills.

In addition to these frequency distributions, the descriptive data was crosstabbed with the stratification variables (type of support, geographic region, and size) to determine if there were systematic differences due to these variables. Tables for the analyses which indicated significant differences are given in Appendix JJJ.

Faculty members from public schools tended to spend a higher percentage of their time in clinical instruction. Two differences were related to geographic region. Western school faculties have a smaller percentage of members at the instructor level. Also, there is a slight tendency for faculty at western schools to devote a higher percentage of academic time to clinical instruction and at eastern schools to devote a smaller percentage. Smaller schools have a more junior faculty in terms of academic rank.

Each faculty member was asked to indicate the type of teaching encounter that best typified his/her clinical teaching. The encounters with percentage responses are clinical supervision (72%), small group seminars (16%), one-to-one conferences with students (8%), and lecturing to students (4%). Analyses of this variable, type of encounter, with the descriptive variables indicated no important differences.

Since many of the analyses for the survey proper were to be multivariate, it was necessary that the 647 retained surveys have a valid response for each item on both the actual and the ideal scales. Subjects seem to have occasionally overlooked a response such as the last item on a page or at the end of a section. The mean response of all non-missing values was calculated for each item and all missing responses were filled in with the integer value closest to the mean response for that item. This allowed retention of all but the previously eliminated 24 surveys and yet is a conservative approach in relation to the statistical analyses to follow. In all, only 0.33% of the total data points were filled in by this manner.

Factor analyses were performed to validate the predetermined subscales of the survey and/or identify other subscales. One analysis was conducted on the actual scale and a parallel analysis on the ideal scale. For both scales, most of the item inter-correlations were moderate; almost 85% were in the .10 to .39 range. A frequency distribution of these inter-correlations is given in Appendix KKK. Varying numbers of factors were inspected following orthogonal rotations, but with the moderate inter-correlations, no clear-cut solution emerged. In fact most items loaded rather high on a one-factor solution; these loadings are given in Appendix KKK. From the actual scale, all but one item had loadings of .3 or better and two-thirds had loadings above .5. From the ideal scale, 92% had loadings above .3 and 37% had loadings above .5. For both scales, any factor beyond the first explained about 5% or less of the variance.

Thus there seemed to be one general factor but no statistical verification of specific subscales. It was decided to retain the original item groupings, as had been previously determined by the consortium's content analyses, for use in the next step.

To describe the state of the art, means and standard deviations were calculated for each of the 72 items on the actual scale. Results are given in Appendix LLL. The mean of the 72 item means is 2.15 which is approaching the 2.0 value associated with the "often" category. Thus the items as a whole reflect current teaching practices. Only two of the items, #16 - involve agency staff in evaluating learning experiences and #30 - help students apply research findings, had means above 3 which would indicate that they are probably done less than half of the time.

Before beginning the development of the discrepancy model, analyses were performed to determine if any of the stratification variables were related to the items on either the actual or the ideal scales. For each of the four skill groupings, 3 one-way MANOVA's were performed using, in turn, each of the stratification variables as a factor. Multivariate analyses were employed as one means to partially protect the overall type I error rate.

Only 2 of the multivariate F's were significant out of 24. In addition only six items accounted for these differences. Results are given in Appendix MMM. With the small number of differences, no patterns were evident other than that 4 of the items were from presentation and providing skills and the differences were with respect to geographic location. These analyses indicated that responses to the survey items were similar across all levels of the stratification variables. Hence it was deemed unnecessary to consider these variables further in the development of the discrepancy model.

Means and standard deviations for each item on the ideal scale are reported in Appendix LLL beside the previously mentioned data for the actual scale. The mean of the 72 ideal item means is 1.41 indicating that respondents feel that the survey reflects skills that should be utilized "often to almost always" in clinical instruction. Every mean was below 2.2 indicating that every skill should be used more than 65% of the time. For each item, the ideal mean is lower than the actual mean, indicating that the skill should be utilized more than it presently is. Matched t-tests verified that each of these actual-ideal differences was significant ($p < .001$). In addition, the correlation of the 72 actual item means with the ideal means is .83.

One "discrepancy model" then is that utilization is significantly less than ideal for each skill. For a more practical approach, in terms of time and financial constraints, a method was needed to identify the skills in greatest need of improvement. A simple rank order of the differences was not totally acceptable since it depends heavily on the scale positions from which they were derived. Thus a 3-dimensional analysis was devised. The mean difference was .74 with a standard deviation of .23. All items with differences more than half a standard deviation above the mean difference (.74 + 1/2 [.23] = .85) were classified as high difference items; items more than half a standard deviation below the mean were classified as low difference items. On the actual and ideal scales items were classified as high (1.00 - 1.99), medium (2.00 - 2.99), and low (3.00 - 3.99). Thus each item fell into one cell of a 3 x 3 x 3 grid. Results are given in Appendix NNN.

An item was called Priority 1 if its actual classification was lower than its ideal classification and it was a high difference item; similarly for Priority 2 except medium difference and for Priority 3 except low difference. Items with the same actual and ideal classification were given the lowest rating, Priority 0, regardless of the difference classification. Appendix 000 gives the percent of items in each priority by each skill grouping. There is more discrepancy in the actual and ideal scores on the presentation and providing skills and the questioning skills than on the attending skills and the teaching styles/attitudes. Thus these first two groupings account for more of the higher priority items.

END OF REPORT STATEMENT

The preceeding pages have presented a description of the methodological approach and analytical procedures employed in the study. This report includes analyses of data according to each discipline i.e., Medicine, Dentistry, and Nursing, and have been incorporated under the title "Executive Summary of the Final Report".

A monograph, "The Comprehensive Report," is currently in preparation and will include a summary of the findings, conclusions, and recommendations.

BIOGRAPHICAL REFERENCES

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APPENDIX A

OBSERVATION RESPONSE FORM

OBSERVATION FORM

		M					
No.	Age	F	Academic Rank	Years in Teaching	Level of Students	Specialty Area/Discipline	Locale/Setting

Specific Behavior(s):

Description of Setting/Background	Inference or Comments

APPENDIX B

CRITICAL INCIDENT TECHNIQUE FORM

THIS INFORMATION WILL BE HELD IN STRICTEST CONFIDENCE. YOU WILL NOT BE IDENTIFIED WITH IT IN ANY WAY.

CRITICAL INCIDENT TECHNIQUE FORM

The aim of a clinic environment, broadly defined, is to provide you with a laboratory to develop clinical skills and to prepare you for entry into your profession. In that sense it is a learning environment comprised of teachers; i.e., faculty, assistants, service personnel, peers, patients, and specified tasks or activities which you perform.

In an attempt to identify the behaviors that occur in clinics as a teaching environment we are making a study of clinical teaching effectiveness and believe that you are in a position to tell us what effective clinical teaching is: Effective teaching is defined as any activity, event, contact, etc. that helped you learn. Therefore, please take a few minutes to respond to the next series of questions.

Age __________ Year/Month in School _______________

Picture if you will an educator who in your eyes is the best clinical teacher you have experienced.

1. Describe the setting in which this event occurred (where/when).

2. What led up to this event (why).

3. Describe as precisely as possible what the teacher did or said (what/how).

4. How did this make you feel or act?

Please list the behavior observed in functional terms. On the grid "setting or locale" check wherein the behavior occurred. Multiple checks are possible. Forward compilation to your Institutional Coordinator.

BEHAVIORAL STATEMENT

SETTING OR LOCALE

APPENDIX C

SURVEY INSTRUMENTS

MEDICINE, DENTISTRY, NURSING

OMB 68-S77004
December 1977

An assessment of clinical teaching skills and strategies in Medicine, Dentistry, and Nursing.

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

Dear Clinical Instructor:

A consortium of five institutions, The Ohio State University, the Medical College of Virginia, The University of Alabama, The State University of New York at Buffalo, and The University of Washington, has been funded by the National Library of Medicine to conduct a comprehensive and systematic study of clinical teaching skills in the health sciences. We received your name from your administration in response to our request for names of faculty involved in clinical teaching. Your response to our survey will be critical to our success in developing several teaching models in medicine, dentistry, and nursing.

We appreciate your time and effort in completing and promptly returning our survey. In return for your participation, we will include the name of your institution in all published contract reports and will provide your institution with a summary report upon study completion.

"The research upon which this material is based is being performed pursuant to Contract No. N01-LM-5-4746 with the National Library of Medicine, National Institutes of Health, Department of Health, Education and Welfare."

OMB 68-S77004
December 1977

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

Contract N01-NLM-5-4746

Recognizing that clinical teaching occurs in a variety of faculty-student encounters, we would like you to select one of the following encounters wherein you spend most of your clinical teaching time. Your responses to the survey should be based on that encounter. For example, if you choose "small group seminars" as the encounter, then your responses to the skill statements will reflect teaching in that area.

CHECK (✓) ONE OF THE FOLLOWING:

( ) small group seminars
( ) patient rounds
( ) one-to-one interactions with students
( ) lecturing to students (large or small groups)
( ) case presentations with students

PLEASE RETURN THIS SHEET ALONG WITH THE SURVEY FORM
IN THE ENCLOSED ENVELOPE.

THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE
3190 GRAVES HALL, 333 W. 10TH AVENUE
COLUMBUS, OHIO 43210

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

SURVEY COMPLETION

Please respond to *all* statements on the survey by placing a *circle* around the response number which in your opinion is closest to:

(1) What the *ACTUAL* skill use presently *IS*, and

(2) What the *IDEAL* skill use *should be*

We request that you go through the survey twice, responding to the (1) ACTUAL column your first time through and the (2) IDEAL column during your second reading.

While your responses should represent opinions you have regarding the actual and ideal utilization of teaching skills in your discipline or specialty, they do not need to be limited to your own particular setting.

The following numerical interpretations should be used in approximating skill use:

ACTUAL AND IDEAL SKILL USE	INTERPRETATION
1 Almost Always	Utilization of the skill in the "usual" delivery of clinical instruction more than **90%of the time.**
2 Often	Utilization of the skill in the "usual" delivery of clinical instruction about **65% to 90% of the time.**
3 Sometimes	Utilization of the skill in the "usual" delivery of clinical instruction about **35% to 65% of the time.**
4 Not Very Often	Utilization of the skill in the "usual" delivery of clinical instruction more than **10% of the time.**
5 Almost Never	Utilization of the skill in the "usual" delivery of clinical instruction less than **10% of the time.**

("usual") — commonly or ordinarily used; found in ordinary practice or in the ordinary course of events.

EXAMPLE:

OMB 68-S77004

December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** skill use and one response which approximates **ideal** skill use.

	ACTUAL How often do you feel clinical instructors in your discipline:					**IDEAL** How often do you feel clinical instructors in your discipline **should:**				
	ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5	ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5
Presentation and Providing Skills										
Inform students of objectives of upcoming learning experience(s)	1	2	[✓ 3]	4	5	1	2	3	[✓ 4]	5
b. Provide examples to highlight and clarify content	1	[✓ 2]	3	4	5	[✓ 1]	2	3	4	5
c. Direct student to learning resources	1	[✓ 2]	3	4	5	[✓ 1]	2	3	4	5

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DIRECTIONS:

Please circle, for each statement, one response which approximates actual skill use and one response which approximates ideal skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					IDEAL How often do you feel clinical instructors in your discipline should:				
		ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
A.	**Presentation and Providing Skills**	1	2	3	4	5	1	2	3	4	5
1.	Explain to students what they are expected to learn from the instruction presented	1	2	3	4	5	1	2	3	4	5
2.	Summarize major points at appropriate times during instruction	1	2	3	4	5	1	2	3	4	5
3.	Take time to check and clarify ambiguous points during presentation	1	2	3	4	5	1	2	3	4	5
4.	Review and criticize the presentation of a guest lecturer	1	2	3	4	5	1	2	3	4	5
5.	Instruct how to structure a consultation request to elicit specific information	1	2	3	4	5	1	2	3	4	5
6.	Describe how one might interact with patients of different age, sex, socio-economic or ethnic backgrounds	1	2	3	4	5	1	2	3	4	5
7.	Outline problem-solving approaches to the case	1	2	3	4	5	1	2	3	4	5
8.	Instruct students on how to select and utilize consultants effectively	1	2	3	4	5	1	2	3	4	5
9.	Provide significance of the laboratory data	1	2	3	4	5	1	2	3	4	5
10.	Explain apparent prognosis	1	2	3	4	5	1	2	3	4	5
11.	Use a "problem listing" in organizing case summary	1	2	3	4	5	1	2	3	4	5
12.	Refer to the research of others	1	2	3	4	5	1	2	3	4	5
13.	Discuss and explain basis of alternative diagnostic procedures and data with students	1	2	3	4	5	1	2	3	4	5
14.	Discuss and explain basis of alternative therapeutic procedures	1	2	3	4	5	1	2	3	4	5
15.	Discuss laboratory results with resident in presence of students	1	2	3	4	5	1	2	3	4	5
16.	Check selected elements of student work-up by interviewing or examining patient in presence of students	1	2	3	4	5	1	2	3	4	5
17.	Demonstrate specific clinical techniques	1	2	3	4	5	1	2	3	4	5
18.	Relate educational reading material to a current patient	1	2	3	4	5	1	2	3	4	5
19.	Give pointers on how to perform a good clinical physical exam as related to specific case	1	2	3	4	5	1	2	3	4	5
20.	Present material in a clear, logical, organized manner	1	2	3	4	5	1	2	3	4	5
21.	Calmly organize and control a chaotic clinical situation	1	2	3	4	5	1	2	3	4	5
22.	Stimulate student interest in a specific patient during presentation	1	2	3	4	5	1	2	3	4	5
23.	Inform student of evaluation criteria for measuring his performance	1	2	3	4	5	1	2	3	4	5
.	Relate general disease concepts to a specific patient	1	2	3	4	5	1	2	3	4	5
25.	Encourage and provide student opportunities to teach	1	2	3	4	5	1	2	3	4	5
26.	Give reading or work-up assignments prior to presentation or discussion	1	2	3	4	5	1	2	3	4	5

OMB 68-S77004 December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** l use and one response which approximates **ideal** skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					IDEAL How often do you feel clinical instructors in your discipline should:				
		ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
		1	2	3	4	5	1	2	3	4	5
B.	**Questioning Skills**										
27.	Explain incorrect responses to questions	1	2	3	4	5	1	2	3	4	5
28.	Guide the student to a desired answer through a series of "hints"	1	2	3	4	5	1	2	3	4	5
29.	Pose contrived questions to increase depth of discussion or understanding	1	2	3	4	5	1	2	3	4	5
30.	Question students regarding diagnostic tests appropriate to situation	1	2	3	4	5	1	2	3	4	5
31.	Question students about significance of physical findings	1	2	3	4	5	1	2	3	4	5
32.	Ask for a "problem listing" on the patient	1	2	3	4	5	1	2	3	4	5
33.	Ask for a differential diagnosis by the student	1	2	3	4	5	1	2	3	4	5
34.	Probe student responses with further questions	1	2	3	4	5	1	2	3	4	5
35.	Ask student to differentiate between essential and non-essential data	1	2	3	4	5	1	2	3	4	5
36.	Ask students for data and/or literature references to support opinions and/or conclusions	1	2	3	4	5	1	2	3	4	5
37.	Ask students how to manage patients	1	2	3	4	5	1	2	3	4	5
38.	Provide discussion by presenting hypothetical patient problems	1	2	3	4	5	1	2	3	4	5
39.	Ask questions which make student use deductive reasoning	1	2	3	4	5	1	2	3	4	5
40.	Encourage students to think about or state other diagnostic possibilities	1	2	3	4	5	1	2	3	4	5
41.	Elaborate on student responses	1	2	3	4	5	1	2	3	4	5
42.	Ask student for successive management steps	1	2	3	4	5	1	2	3	4	5
C.	**Attending Skills**										
43.	Present behavioral, social, family and financial factors in decisions regarding patient management	1	2	3	4	5	1	2	3	4	5
44.	Prepare for class and student sessions	1	2	3	4	5	1	2	3	4	5
45.	Point out student's missed observations	1	2	3	4	5	1	2	3	4	5
46.	Provide meaningful and accurate estimates of student performance for evaluation, promotion and/or review committees on a regular basis	1	2	3	4	5	1	2	3	4	5
47.	Respond to student requests for advice regarding patient evaluation and management	1	2	3	4	5	1	2	3	4	5
48.	Give a series of hypothetical management complications	1	2	3	4	5	1	2	3	4	5
.	Respond enthusiastically to questions	1	2	3	4	5	1	2	3	4	5
50.	Recognize students' educational problems	1	2	3	4	5	1	2	3	4	5
51.	Encourage students while they are performing procedures	1	2	3	4	5	1	2	3	4	5
52.	Give positive verbal reinforcement on clinical performance	1	2	3	4	5	1	2	3	4	5
53.	Provide frequent feedback on student performance	1	2	3	4	5	1	2	3	4	5

OMB 68-S77004 December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates actual l use and one response which approximates ideal skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					IDEAL How often do you feel clinical instructors in your discipline should:				
		ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
		1	2	3	4	5	1	2	3	4	5
54.	Assess current level of student understanding of topic and gear discussion to that level	1	2	3	4	5	1	2	3	4	5
55.	Correct mistakes in a positive and constructive way	1	2	3	4	5	1	2	3	4	5
56.	Provide a breakdown of complicated topics to more easily understood terms	1	2	3	4	5	1	2	3	4	5
57.	Ask students about difficulties on service	1	2	3	4	5	1	2	3	4	5
58.	Ask students for feedback and suggestions for improving learning experience on the service	1	2	3	4	5	1	2	3	4	5
D.	**Teaching Styles/Attitudes**										
59.	Convey a tolerance for uncertainty in medical problems	1	2	3	4	5	1	2	3	4	5
60.	Demonstrate an interest in the students' efforts to learn	1	2	3	4	5	1	2	3	4	5
61.	Admit limits of own medical knowledge and experience	1	2	3	4	5	1	2	3	4	5
.	Encourage students to give information	1	2	3	4	5	1	2	3	4	5
63.	Consider student suggestions on patient evaluation and management	1	2	3	4	5	1	2	3	4	5
64.	Redirect instruction or discussion to original topic	1	2	3	4	5	1	2	3	4	5
65.	Emphasize promptness for teaching sessions	1	2	3	4	5	1	2	3	4	5
66.	Show enthusiasm about their profession	1	2	3	4	5	1	2	3	4	5
67.	Allow for open discussion during a presentation	1	2	3	4	5	1	2	3	4	5
68.	Provide consistency in the critique of students' performance	1	2	3	4	5	1	2	3	4	5
69.	Provide time for discussion with individual students	1	2	3	4	5	1	2	3	4	5
70.	Provide for student participation in the instructional process	1	2	3	4	5	1	2	3	4	5
71.	Provide a teaching session on an event that just occurred during rounds	1	2	3	4	5	1	2	3	4	5
72.	Convey a willingness to learn from students	1	2	3	4	5	1	2	3	4	5
73.	Convey and demonstrate leadership skill as a professional attribute	1	2	3	4	5	1	2	3	4	5
74.	Demonstate critical appraisal of lab data, consultant recommendations, etc.	1	2	3	4	5	1	2	3	4	5
75.	Encourage students to evaluate critically, lab data, consultant recommendations, etc.	1	2	3	4	5	1	2	3	4	5
76.	Convey respect for other specialties, disciplines and professions	1	2	3	4	5	1	2	3	4	5

OMB 68-S77004
December 1977

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

RESPONDENT INFORMATION SHEET

The following information is requested to help assess the appropriateness of the sampling response.

YOUR NAME WILL BE USED ONLY TO IDENTIFY NON-RESPONDENTS FOR SURVEY FOLLOW-UP TO ASSURE A COMPLETE AND ACCURATE SAMPLING RETURN.

1. Name: ______________________________
(Please Print)

CHECK (✓) THE APPROPRIATE RESPONSE.

2. Academic rank:

( ) instructor ( ) assistant professor ( ) associate professor ( ) professor

3. Time per week for academic commitment:

*FTE DAYS
( ) 1.0 = 5
( ) .9 = 4 1/2
( ) .8 = 4
( ) .7 = 3 1/2
( ) .6 = 3

FTE DAYS
( ) .5 = 2 1/2
( ) .4 = 2
( ) .3 = 1 1/2
( ) .2 = 1
( ) .1 = 1/2
( ) .1 =< 1/2 day

*Full time equivalent (1.0 FTE = 100% = 5 days)

4. Percentage of above time given to clinical instruction:

( ) less than 25% ( ) 25 to 50% ( ) 51 to 75% ( ) more than 75%

5. Total years of clinical teaching experience:

( ) less than 2 years ( ) 2 to 5 years ( ) more than 5 years

6. Which of the following activities have you participated in during the past 3 years to specifically improve your teaching skills? (Check all that are appropriate.)

( ) Educational workshops or seminars
( ) Professional meetings (e.g., AAMC, AADS, NLM, ANA)
( ) Formal course work
( ) Reading educational journals (e.g., Journal of Medical Education)
( ) other, please specify ______________________________

PLEASE RETURN THIS SHEET ALONG WITH THE SURVEY FORM IN THE ENCLOSED ENVELOPE.

THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE
3190 GRAVES HALL, 333 W. 10TH AVENUE
COLUMBUS, OHIO 43210

OMB 68-S77004
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"The research upon which this material is based is being performed pursuant to Contract No. N01-LM-5-4746 with the National Library of Medicine, National Institutes of Health, Department of Health, Education and Welfare."

OMB 68-S77004
December 1977

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

Contract NO1-NLM-5-4746

Recognizing that clinical teaching occurs in a variety of faculty-student encounters, we would like you to select one of the following encounters wherein you spend most of your clinical teaching time. Your response to the survey should be based on that encounter. For example, if you chocse "small student groups on clinic floor" as the encounter, then your responses to the skill statements will reflect teaching in that area.

CHECK (✓) ONE OF THE FOLLOWING:

- ( ) clinical conferences on clinic floor
- ( ) one-to-one with student and patient in operatory
- ( ) one-to-one with student in operatory
- ( ) lecture setting as adjunct to clinic experience
- ( ) small student groups on clinic floor
- ( ) audio/visual presentation as adjunct to clinic
- ( ) one-to-one with student in office, hall, or other

PLEASE RETURN THIS SHEET ALONG WITH THE SURVEY FORM
IN THE ENCLOSED ENVELOPE.

THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE
3190 GRAVES HALL, 333 W. 10TH AVENUE
COLUMBUS, OHIO 43210

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

SURVEY COMPLETION

Please respond to *all* statements on the survey by placing a *circle* around the response number which in your opinion is closest to:

(1) What the *ACTUAL* skill use presently *IS*, and

(2) What the *IDEAL* skill use *should be*

We request that you go through the survey twice, responding to the (1) ACTUAL column your first time through and the (2) IDEAL column during your second reading.

While your responses should represent opinions you have regarding the actual and ideal utilization of teaching skills in your discipline or specialty, they do not need to be limited to your own particular setting.

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3 Sometimes	Utilization of the skill in the "usual" delivery of clinical instruction about **35% to 65% of the time.**
4 Not Very Often	Utilization of the skill in the "usual" delivery of clinical instruction more than **10% of the time.**
5 Almost Never	Utilization of the skill in the "usual" delivery of clinical instruction less than **10% of the time.**

("usual") — commonly or ordinarily used; found in ordinary practice or in the ordinary course of events.

OMB 68-S77004 December 1977

EXAMPLE:

DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** skill use and one response which approximates **ideal** skill use.

	ACTUAL How often do you feel clinical instructors in your discipline:					**IDEAL** How often do you feel clinical instructors in your discipline **should:**				
	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
Presentation and Providing Skills	1	2	3	4	5	1	2	3	4	5
Inform students of objectives of upcoming learning experience(s)	1	2	[✓ 3]	4	5	1	2	3	[✓ 4]	5
b. Provide examples to highlight and clarify content	1	[✓ 2]	3	4	5	[✓ 1]	2	3	4	5
c. Direct student to learning resources	1	[✓ 2]	3	4	5	[✓ 1]	2	3	4	5

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DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** skill use and one response which approximates **ideal** skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					IDEAL How often do you feel clinical instructors in your discipline should:				
		ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
A.	**Presentation and Providing Skills**	1	2	3	4	5	1	2	3	4	5
1.	Explain to students what they are expected to learn from the instruction presented	1	2	3	4	5	1	2	3	4	5
2.	Identify and emphasize the more important concepts	1	2	3	4	5	1	2	3	4	5
3.	Make specific suggestions regarding procedures before treatment	1	2	3	4	5	1	2	3	4	5
4.	Explain own patient-management observations	1	2	3	4	5	1	2	3	4	5
5.	Give suggestions to increase speed in performing procedure	1	2	3	4	5	1	2	3	4	5
6.	Demostrate proper use of instruments and equipment	1	2	3	4	5	1	2	3	4	5
7.	Use audio-visual aids or 2 or 3 dimensional aids when appropriate in describing techniques or concepts that are different	1	2	3	4	5	1	2	3	4	5
8.	Summarize tasks necessary for each student to accomplish the objectives	1	2	3	4	5	1	2	3	4	5
9.	Summarize time-frame necessary for each student to accomplish the objective	1	2	3	4	5	1	2	3	4	5
10.	Use humor appropriately	1	2	3	4	5	1	2	3	4	5
11.	Assist in clarifying patient-management problems	1	2	3	4	5	1	2	3	4	5
12.	Suggest alternate procedure when student is correct or incorrect	1	2	3	4	5	1	2	3	4	5
13.	Give rationale for a particular treatment	1	2	3	4	5	1	2	3	4	5
14.	Demonstrate appropriate clinical techniques	1	2	3	4	5	1	2	3	4	5
15.	Demonstrate clinical procedures at a rate appropriate to the students' needs	1	2	3	4	5	1	2	3	4	5
16.	Explain alternate treatment plans to student	1	2	3	4	5	1	2	3	4	5
17.	Demonstrate skill of explaining estimates of expenses to patients	1	2	3	4	5	1	2	3	4	5
18.	Exhibit ability to follow-up on students	1	2	3	4	5	1	2	3	4	5
19.	Use a planned variety of instructional activity (e.g., questioning, demonstration, etc.)	1	2	3	4	5	1	2	3	4	5
B.	**Questioning Skills**										
20.	Identify a student's strengths/weaknesses in his current skill level	1	2	3	4	5	1	2	3	4	5
21.	Answer student questions immediately	1	2	3	4	5	1	2	3	4	5
22.	Ask student for positive or negative comments on suggested techniques	1	2	3	4	5	1	2	3	4	5
23.	Ask student to comment on specific procedures during treatment	1	2	3	4	5	1	2	3	4	5
24.	Ask student to participate in his learning by discussing, i.e.; procedures, etc.	1	2	3	4	5	1	2	3	4	5

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DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** skill use **and** one response which approximates **ideal** skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					**IDEAL** How often do you feel clinical instructors in your discipline **should**:				
		ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5	ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5
25.	Ask for student opinion	1	2	3	4	5	1	2	3	4	5
26.	Ask student if assistance is needed before the procedure	1	2	3	4	5	1	2	3	4	5
27.	Ask student questions during demonstration to maintain their attention	1	2	3	4	5	1	2	3	4	5
28.	Ask student to describe course of treatment	1	2	3	4	5	1	2	3	4	5
29.	Ask student to define questions which need to be asked to acceptably resolve a patient's treatment or management problems	1	2	3	4	5	1	2	3	4	5
30.	Permit students to assume primary responsibility for answering questions	1	2	3	4	5	1	2	3	4	5
31.	Ask students to identify strengths and weaknesses in their own performance	1	2	3	4	5	1	2	3	4	5
C.	**Attending Skills**										
	Explain basis for decisions in patient care to student	1	2	3	4	5	1	2	3	4	5
33.	Attempt to describe model behavior prior to a student beginning a procedure	1	2	3	4	5	1	2	3	4	5
34.	Give students systematic evaluation of their progress	1	2	3	4	5	1	2	3	4	5
35.	Maintain eye contact	1	2	3	4	5	1	2	3	4	5
36.	Actively listen to student	1	2	3	4	5	1	2	3	4	5
37.	Provide direct and to the point responses to student questions	1	2	3	4	5	1	2	3	4	5
38.	Summarize important points	1	2	3	4	5	1	2	3	4	5
39.	Restate, reflect or clarify student's explanation	1	2	3	4	5	1	2	3	4	5
40.	Provide instructional time for discussion	1	2	3	4	5	1	2	3	4	5
41.	Provide reinforcement when a student responds to a question	1	2	3	4	5	1	2	3	4	5
42.	Willing to offer assistance if needed in procedure	1	2	3	4	5	1	2	3	4	5
D.	**Teaching Styles/Attitudes**										
43.	Encourage students to use own judgment, when appropriate	1	2	3	4	5	1	2	3	4	5
44.	Prepare for class and student sessions	1	2	3	4	5	1	2	3	4	5
45.	Consult with students regarding progress on procedures	1	2	3	4	5	1	2	3	4	5
46.	Permit student explanation of issues	1	2	3	4	5	1	2	3	4	5
	Take time to be perceptive to students' problems	1	2	3	4	5	1	2	3	4	5
	Provide empathy to students when appropriate	1	2	3	4	5	1	2	3	4	5
49.	Offer constructive criticism to student	1	2	3	4	5	1	2	3	4	5
50.	Allow time for student to express differing opinions	1	2	3	4	5	1	2	3	4	5
51.	Establish rapport with students	1	2	3	4	5	1	2	3	4	5

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DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** skill use **and** one response which approximates **ideal** skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					**IDEAL** How often do you feel clinical instructors in your discipline **should:**				
		ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5	ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5
52.	Make themselves accessible to students	1	2	3	4	5	1	2	3	4	5
53.	Assist rather than direct students in completing procedures	1	2	3	4	5	1	2	3	4	5
54.	Clarify uncertainties in clinical diagnosis	1	2	3	4	5	1	2	3	4	5
55.	Encourage students to ask questions	1	2	3	4	5	1	2	3	4	5
56.	Provide the opportunity for the student to diagnose	1	2	3	4	5	1	2	3	4	5
57.	Explain practical approaches to the management of patient problems in ways that are clearly understood by the student	1	2	3	4	5	1	2	3	4	5
58.	Avoid negative criticism of students in front of patients	1	2	3	4	5	1	2	3	4	5
59.	Avoid negative criticism of students in front of staff	1	2	3	4	5	1	2	3	4	5
.	Attend clinical teaching sessions	1	2	3	4	5	1	2	3	4	5
.	Treat students with respect in the presence of patients	1	2	3	4	5	1	2	3	4	5

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A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

RESPONDENT INFORMATION SHEET

The following information is requested to help assess the appropriateness of the sampling response.

YOUR NAME WILL BE USED ONLY TO IDENTIFY NON-RESPONDENTS FOR SURVEY FOLLOW-UP TO ASSURE A COMPLETE AND ACCURATE SAMPLING RETURN.

1. Name: ______________________________
(Please Print)

CHECK (✓) THE APPROPRIATE RESPONSE.

2. Academic rank:

( ) instructor ( ) assistant professor ( ) associate professor ( ) professor

3. Time per week for academic commitment:

	*FTE	DAYS		FTE	DAYS
( )	1.0 =	5	( )	.5 =	2 1/2
( )	.9 =	4 1/2	( )	.4 =	2
( )	.8 =	4	( )	.3 =	1 1/2
( )	.7 =	3 1/2	( )	.2 =	1
( )	.6 =	3	( )	.1 =	1/2
			( )	.1 =	< 1/2 day

*Full time equivalent (1.0 FTE = 100% = 5 days)

4. Percentage of above time given to clinical instruction:

( ) less than 25% ( ) 25 to 50% ( ) 51 to 75% ( ) more than 75%

5. Total years of clinical teaching experience:

( ) less than 2 years ( ) 2 to 5 years ( ) more than 5 years

6. Which of the following activities have you participated in during the past 3 years to specifically improve your teaching skills? (Check all that are appropriate.)

( ) Educational workshops or seminars
( ) Professional meetings (e.g., AAMC, AADS, NLM, ANA)
( ) Formal course work
( ) Reading educational journals (e.g., Journal of Medical Education)
( ) other, please specify ______________________________

PLEASE RETURN THIS SHEET ALONG WITH THE SURVEY FORM IN THE ENCLOSED ENVELOPE.

THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE
3190 GRAVES HALL, 333 W. 10TH AVENUE
COLUMBUS, OHIO 43210

OMB 68-S77004
December 1977

An assessment of clinical teaching skills and strategies in Medicine, Dentistry, and Nursing.

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

Dear Clinical Instructor:

A consortium of five institutions, The Ohio State University, the Medical College of Virginia, The University of Alabama, The State University of New York at Buffalo, and The University of Washington, has been funded by the National Library of Medicine to conduct a comprehensive and systematic study of clinical teaching skills in the health sciences. We received your name from your administration in response to our request for names of faculty involved in clinical teaching. Your response to our survey will be critical to our success in developing several teaching models in medicine, dentistry, and nursing.

We appreciate your time and effort in completing and promptly returning our survey. In return for your participation, we will include the name of your institution in all published contract reports and will provide your institution with a summary report upon study completion.

"The research upon which this material is based is being performed pursuant to Contract No. N01-LM-5-4746 with the National Library of Medicine, National Institutes of Health, Department of Health, Education and Welfare."

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December 1977

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

Contract N01-NLM-5-4746

Recognizing that clinical teaching occurs in a variety of faculty-student encounters, we would like you to select one of the following encounters wherein you spend most of your clinical teaching time. Your responses to the survey should be based on that encounter. For example, if you choose "small group seminars" as the encounter, then your responses to the skill statements will reflect teaching in that area.

CHECK (✓) ONE OF THE FOLLOWING:

( ) small group seminars
( ) lecturing to students (large or small groups)
( ) one-to-one conferences with students
( ) clinical supervision

PLEASE RETURN THIS SHEET ALONG WITH THE SURVEY FORM
IN THE ENCLOSED ENVELOPE.

THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE
3190 GRAVES HALL, 333 W. 10TH AVENUE
COLUMBUS, OHIO 43210

A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

SURVEY COMPLETION

Please respond to *all* statements on the survey by placing a *circle* around the response number which in your opinion is closest to:

(1) What the *ACTUAL* skill use presently *IS*, and

(2) What the *IDEAL* skill use *should be*

We request that you go through the survey twice, responding to the (1) ACTUAL column your first time through and the (2) IDEAL column during your second reading.

While your responses should represent opinions you have regarding the actual and ideal utilization of teaching skills in your discipline or specialty, they do not need to be limited to your own particular setting.

The following numerical interpretations should be used in approximating skill use:

ACTUAL AND IDEAL SKILL USE	INTERPRETATION
1 Almost Always	Utilization of the skill in the "usual" delivery of clinical instruction more than **90%of the time.**
2 Often	Utilization of the skill in the "usual" delivery of clinical instruction about **65% to 90% of the time.**
3 Sometimes	Utilization of the skill in the "usual" delivery of clinical instruction about **35% to 65% of the time.**
4 Not Very Often	Utilization of the skill in the "usual" delivery of clinical instruction more than **10% of the time.**
5 Almost Never	Utilization of the skill in the "usual" delivery of clinical instruction less than **10% of the time.**

("usual") — commonly or ordinarily used; found in ordinary practice or in the ordinary course of events.

OMB 68-S77004 December 1977

EXAMPLE:

DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** skill use **and** one response which approximates **ideal** skill use.

	ACTUAL How often do you feel clinical instructors in your discipline:					**IDEAL** How often do you feel clinical instructors in your discipline **should:**				
	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
	1	2	3	4	5	1	2	3	4	5
Presentation and Providing Skills										
a. Inform students of objectives of upcoming learning experience(s)	1	2	[✓ 3]	4	5	1	2	3	[✓ 4]	5
b. Provide examples to highlight and clarify content	1	[✓ 2]	3	4	5	[✓ 1]	2	3	4	5
c. Direct student to learning resources	1	[✓ 2]	3	4	5	[✓ 1]	2	3	4	5

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DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** ill use and one response which approximates **ideal** skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					IDEAL How often do you feel clinical instructors in your discipline **should**:				
		ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5	ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5
A.	**Presentation and Providing Skills**										
1.	Inform students of objectives of upcoming learning experience(s)	1	2	3	4	5	1	2	3	4	5
2.	Provide examples to highlight and clarify content	1	2	3	4	5	1	2	3	4	5
3.	Direct student to learning resources	1	2	3	4	5	1	2	3	4	5
4.	Select appropriate teaching aids	1	2	3	4	5	1	2	3	4	5
5.	Demonstrate nursing procedure	1	2	3	4	5	1	2	3	4	5
6.	Demonstrate, with student as observer, nursing care for client	1	2	3	4	5	1	2	3	4	5
7.	Demonstrate, with student as observer, interpersonal relationships with clients	1	2	3	4	5	1	2	3	4	5
8.	Demonstrate, with student as observer, interpersonal relationships with other health team members	1	2	3	4	5	1	2	3	4	5
9.	Demonstrate, with student as observer, client teaching and assessment (presenting behaviors and history)	1	2	3	4	5	1	2	3	4	5
10.	Demonstrate effective clinical nursing techniques	1	2	3	4	5	1	2	3	4	5
11.	Respond succinctly to questions	1	2	3	4	5	1	2	3	4	5
12.	Demonstrate nursing care rather than tell about it	1	2	3	4	5	1	2	3	4	5
13.	Select clinical experiences that require students to use decision-making skills	1	2	3	4	5	1	2	3	4	5
14.	Involve agency staff in planning learning experiences	1	2	3	4	5	1	2	3	4	5
15.	Involve agency staff in implementing learning experiences	1	2	3	4	5	1	2	3	4	5
16.	Involve agency staff in evaluating learning experiences	1	2	3	4	5	1	2	3	4	5
B.	**Questioning Skills**										
17.	Question students to determine accuracy of observations of client conditions	1	2	3	4	5	1	2	3	4	5
18.	Question students to determine completeness of observations of client conditions	1	2	3	4	5	1	2	3	4	5
19.	Question students to assess understanding of the purpose of procedures	1	2	3	4	5	1	2	3	4	5
20.	Question students to assess students' ability to apply principles to client's condition and needs	1	2	3	4	5	1	2	3	4	5
21.	Question students to assess students' ability to apply facts to client's condition and needs	1	2	3	4	5	1	2	3	4	5
22.	Question students to assess students' ability to identify various client manifestations as examples of particular physiological or psychological conditions about which the student should know	1	2	3	4	5	1	2	3	4	5
23.	Question students to determine students' knowledge regarding the acceptable limits of "normalcy" in client condition	1	2	3	4	5	1	2	3	4	5

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DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** '‘ill use **and** one response which approximates **ideal** skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					IDEAL How often do you feel clinical instructors in your discipline **should:**				
		ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5	ALMOST ALWAYS 1	OFTEN 2	SOMETIMES 3	NOT VERY OFTEN 4	ALMOST NEVER 5
24.	Question students to determine students' understanding of objectives of the clinical experience	1	2	3	4	5	1	2	3	4	5
25.	Question students to assess students' understanding of the planned completed clinical experience in terms of their relationship to the unit being studied	1	2	3	4	5	1	2	3	4	5
26.	Question students to encourage students to identify and verbalize their own feelings about the patient, his condition, and the care the student gave the client	1	2	3	4	5	1	2	3	4	5
27.	Question students to assess their ability to correctly interpret lab, chart, or equipment data	1	2	3	4	5	1	2	3	4	5
28.	Determine level of student preparation	1	2	3	4	5	1	2	3	4	5
29.	Help students to understand the contributions of other health team members to client care	1	2	3	4	5	1	2	3	4	5
30.	Help students apply research findings	1	2	3	4	5	1	2	3	4	5
C.	**Attending Skills**										
31.	Answer students' questions during a teaching session	1	2	3	4	5	1	2	3	4	5
32.	Explain relationship between clinical assignment and educational objectives	1	2	3	4	5	1	2	3	4	5
33.	Inform agency staff of student assignments and responsibilities	1	2	3	4	5	1	2	3	4	5
34.	Explain modifications necessary to correct ineffective plans of nursing care	1	2	3	4	5	1	2	3	4	5
35.	Discuss student objectives for clinical care	1	2	3	4	5	1	2	3	4	5
36.	Provide written feedback on students' performance	1	2	3	4	5	1	2	3	4	5
37.	Provide oral feedback on students' performance	1	2	3	4	5					
38.	Keep written evaluation (numeric or narrative) on students' performance	1	2	3	4	5	1	2	3	4	5
39.	Summarize outcomes of learning experiences for students	1	2	3	4	5	1	2	3	4	5
40.	Compliment students for competent clinical performance	1	2	3	4	5	1	2	3	4	5
41.	Return assignments to students as promised	1	2	3	4	5	1	2	3	4	5
42.	Maintain notes to report and discuss student progress after each clinical experience	1	2	3	4	5	1	2	3	4	5
'3.	Observe condition of client assigned to each student with an eye to client-related barriers which may inhibit student from meeting delineated instructional objectives	1	2	3	4	5	1	2	3	4	5
44.	Identify errors in students' procedure	1	2	3	4	5	1	2	3	4	5
45.	Inform students of correct procedure	1	2	3	4	5	1	2	3	4	5
46.	Give students the opportunity to perform procedures correctly	1	2	3	4	5	1	2	3	4	5

OMB 68-S77004 December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates **actual** l use and one response which approximates **ideal** skill use.

		ACTUAL How often do you feel clinical instructors in your discipline:					IDEAL How often do you feel clinical instructors in your discipline should:				
		ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
		1	2	3	4	5	1	2	3	4	5
47.	Give direct assistance to students when performing tasks the students perceive as being difficult	1	2	3	4	5	1	2	3	4	5
48.	Remain objective in student evaluation	1	2	3	4	5	1	2	3	4	5
49.	Remain perceptive to student needs and problems	1	2	3	4	5	1	2	3	4	5
50.	Remain realistic regarding expected student performance	1	2	3	4	5	1	2	3	4	5
51.	Facilitate communications between students and other health care professionals	1	2	3	4	5	1	2	3	4	5
52.	Facilitate student participation in discussions	1	2	3	4	5	1	2	3	4	5
53.	Modify teaching strategies to achieve specified goals	1	2	3	4	5	1	2	3	4	5
54.	Assist students in intervening on behalf of the client	1	2	3	4	5	1	2	3	4	5
55.	Encourage students to express feelings	1	2	3	4	5	1	2	3	4	5
	Teaching Styles/Attitudes										
56.	Maintain a listing of students' learning experiences	1	2	3	4	5	1	2	3	4	5
57.	Review with students their preparation for the clinical experience	1	2	3	4	5	1	2	3	4	5
58.	Encourage students to consider alternative approaches to client problems	1	2	3	4	5	1	2	3	4	5
59.	Observe progress toward meeting instructional objectives made by students assigned to "difficult" clients	1	2	3	4	5	1	2	3	4	5
60.	Assist students in seeking client's contribution in developing a health care plan	1	2	3	4	5	1	2	3	4	5
61.	Assist students in understanding issues which affect the profession of nursing	1	2	3	4	5	1	2	3	4	5
62.	Seek student opinions regarding teaching effectiveness	1	2	3	4	5	1	2	3	4	5
63.	Provide time for student accessibility	1	2	3	4	5	1	2	3	4	5
64.	Advise students about performance	1	2	3	4	5	1	2	3	4	5
65.	Maintain calmness and deliberateness in behavior	1	2	3	4	5	1	2	3	4	5
66.	Deal with student's frustrations, confusion, and anxieties	1	2	3	4	5	1	2	3	4	5
67.	Allow students to select learning experiences within appropriate limits	1	2	3	4	5	1	2	3	4	5
68.	Display enthusiasm	1	2	3	4	5	1	2	3	4	5
69.	Remain consistent in behavior toward students	1	2	3	4	5	1	2	3	4	5
.	Discuss ethical issues of patient care with students	1	2	3	4	5	1	2	3	4	5
71.	Display self-confidence	1	2	3	4	5	1	2	3	4	5
72.	Ask students for suggestions in improving the learning experiences	1	2	3	4	5	1	2	3	4	5

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A COMPREHENSIVE AND SYSTEMATIC ASSESSMENT OF CLINICAL TEACHING SKILLS AND STRATEGIES IN THE HEALTH SCIENCES

RESPONDENT INFORMATION SHEET

The following information is requested to help assess the appropriateness of the sampling response.

YOUR NAME WILL BE USED ONLY TO IDENTIFY NON-RESPONDENTS FOR SURVEY FOLLOW-UP TO ASSURE A COMPLETE AND ACCURATE SAMPLING RETURN.

1. Name: ______________________________
(Please Print)

CHECK (✓) THE APPROPRIATE RESPONSE.

2. Academic rank:

☐ instructor ☐ assistant professor ☐ associate professor ☐ professor

3. Time per week for academic commitment:

	*FTE	DAYS		FTE	DAYS
☐	1.0 =	5	☐	.5 =	2 1/2
☐	.9 =	4 1/2	☐	.4 =	2
☐	.8 =	4	☐	.3 =	1 1/2
☐	.7 =	3 1/2	☐	.2 =	1
☐	.6 =	3	☐	.1 =	1/2
			☐	.1 =	< 1/2 day

*Full time equivalent (1.0 FTE = 100% = 5 days)

4. Percentage of above time given to clinical instruction:

☐ less than 25% ☐ 25 to 50% ☐ 51 to 75% ☐ more than 75%

5. Total years of clinical teaching experience:

☐ less than 2 years ☐ 2 to 5 years ☐ more than 5 years

6. Which of the following activities have you participated in during the past 3 years to specifically improve your teaching skills? (Check all that are appropriate.)

☐ Educational workshops or seminars
☐ Professional meetings (e.g., AAMC, AADS, NLM, ANA)
☐ Formal course work
☐ Reading educational journals (e.g., Journal of Medical Education)
☐ other, please specify ______________________________

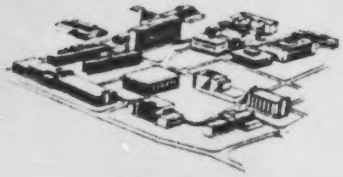
PLEASE RETURN THIS SHEET ALONG WITH THE SURVEY FORM IN THE ENCLOSED ENVELOPE.

THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE
3190 GRAVES HALL, 333 W. 10TH AVENUE
COLUMBUS, OHIO 43210

APPENDIX D

LETTERS OF INTENT AND PARTICIPATION

THE
COLLEGE OF MEDICINE
FACILITIES



THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE

APPENDIX D

Grant O. Graves Hall
333 West 10th Avenue
Columbus, Ohio 43210

Office of the Dean
Division of Research and Evaluation
in Medical Education
Phone (614) 422-9063

TO: Institutional Coordinators and School Representatives

FROM: C. Benjamin Meleca, Ph.D., Principal Investigator
Frank Schimpfhauser, Ph.D., Co-Investigator
Joseph Wittemann, Ph.D., Co-Investigator

DATE: February 10, 1976

SUBJECT: Pilot Survey Completion

We are finally ready for the pilot phase of our program! We have sent to you prototypes of the materials which, when the final drafts are collated, will be sent to the various discipline administrators we have randomly selected at schools throughout the country.

Acting as "pilot administrators", we would like you to select at least 10 clinical instructors from each of the three disciplines, Medicine, Dentistry, and Nursing, and (through the school representatives) distribute to them a copy of the pilot survey instrument, the introductory request letter, the information sheet, and the self-addressed return envelope, for their completion and comments. We have enclosed 15 sets of material for your use.

After collection of the information obtained during this pilot phase, the final survey will be constructed and distributed in March. A copy of the final survey instrument and written materials will be sent to you before formal distribution, for your final comments.

If you have any comments or suggestions regarding the enclosed materials, please call or write.

REQUEST FOR YOUR PROFESSIONAL ASSISTANCE

Pilot Survey Development

Dear Clinical Faculty Member:

Through your institutional coordinator, we are asking for a small amount of your professional time to help us in the development of a reliable and valid survey instrument which will be used in studying, and hopefully improving, the state of the art of clinical instruction. As part of a five school consortium effort involving The University of Alabama, The University of Buffalo, The Medical College of Virginia, The Ohio State University, and The University of Washington, we are pilot testing a survey form which will form the basis for data collections at a number of health science schools throughout the country.

While effective clinical instruction and the teaching skills appropriate to carry them out may vary greatly according to personal style and physical environment, it is assumed that certain instructional behaviors enhance learning while others may not have an appreciable influence.

The teaching behaviors and skills which we would like you to respond to represent those gathered through the observation of clinical instructors at each of five schools and are not necessarily intended to be inclusive of all possible teaching skills.

Upon return and analysis of your candid responses, which will remain anonymous, you will receive a copy of the refined instrument for your personal reference and file. In order to insure the inclusion of your responses, please return the survey in the envelope provided by Wednesday, February 25.

A five school consortium effort funded through the contract NLM 75-113/504,
"A Comprehensive and Systematic Assessment of Clinical Teaching Skills and Strategies in the Health Sciences"
National Library of Medicine
2/10/76

68-S77004
December 1977

An assessment of clinical teaching skills and strategies in Medicine, Dentistry, and Nursing.

A Consortium Study funded by the National Library of Medicine. Being conducted by The Ohio State University, The Medical College of Virginia, The University of Alabama, The State University of New York at Buffalo, and The University of Washington.

Dear

Your school has been selected* to participate in a national study survey aimed at the assessment of specifically identified teaching skills and behaviors currently being used in the clinical portion of undergraduate health sciences curriculum. Funded by the National Library of Medicine, a consortium of health science schools has worked over the past six months to collect observable skills and strategies representative of actual teaching in the clinical setting. To assist us in obtaining broader-based information, which will be used in posing alternate approaches for improving clinical teaching effectiveness, we are requesting your assistance in securing the verbal agreement of up to eight but at least four clinical instructors who would be willing to complete a short mailed survey. If at all possible, please utilize more than one clinical department in faculty selection.

So that we may mail the survey form directly to each clinical instructor, we have enclosed for your return a name and address listing form. Please return the form to us as soon as possible. An information sheet for each instructor participant has also been enclosed for your use.

Should you feel that your institution will NOT be able to participate with us in this important study, please return this letter of request so noted in the enclosed return envelope IMMEDIATELY. In either case, your prompt attention will be appreciated as we are required to follow-up non-respondents.

In return for your valuable assistance, we will include the name of your school as a participating institution on all published contract reports and provide you personally with a summary report upon study completion. You may be assured that complete anonymity will be maintained with regard to individual respondents. Questions related to any aspect of the study may be directed to members of the study team as provided on the back of this sheet. In accordance with federal regulations it is our responsibility to state that your cooperation in responding to us is strictly voluntary. Further, faculty members cooperating in completing the survey form, do so voluntarily.

**Representative sampling based on geographical region, enrollment size, and type of support.*

"The research upon which this material is based is being performed pursuant to Contract No. NO1-LM-5-4746 with the National Library of Medicine, National Institutes of Health, Department of Health, Education and Welfare."

68-S77004
December 1977

Participating Clinical Instructors To Whom the 30 Minute Survey on "Teaching Skills and Strategies" Should be Mailed for Completion

(Name, Dept., and Mailing Address)

1.

2.

3.

4.

5.

6.

7.

8.

Please complete and return this sheet as soon as possible in the enclosed, stamped, self-addressed envelope.

Clinical Teaching Skills Assessment Study
Division of Research and Evaluation in Medical Education
College of Medicine
The Ohio State University
3190 Graves Hall
333 West Tenth Avenue
Columbus, Ohio 43210

68-S77004
December 1977

CLINICAL TEACHING SKILLS PROJECT

Principal Project Staff

C. Benjamin Meleca, Ph.D.
The Ohio State University
College of Medicine
Phone - 614-422-9063

Frank T. Schimpfhauser, Ph.D.
State University of New York
at Buffalo
School of Medicine
Phone - 716-831-2811

Joseph K. Wittemann, Ph.D.
Medical College of Virginia,
V.C.U.
School of Dentistry
Phone - 804-770-4501

Consortium Representatives

Medicine	*Dentistry*	*Nursing*
*Jack Hain, Ph.D.** *University of Alabama*	*Sylvia McDaniel, Ph.D* *University of Alabama*	*Norma Mobley, M.S.N., Ed.D.* *University of Alabama*
John Richert, Ed.D. *State University of New York at Buffalo*	*Charles Garverick, Ph.D.** *State University of New York at Buffalo*	*Donna Juenker, Ed.M.* *State University of New York at Buffalo*
*C. Benjamin Meleca, Ph.D.** *The Ohio State University*	*Mary Gnezda, Ph.D.* *The Ohio State University*	*Patricia Schwirian, Ph.D.* *The Ohio State University*
*Frank Schimpfhauser, Ph.D.** *The Ohio State University*		
Eugene Arnold, M.D. *The Ohio State University*		
Martin Harris, M.D. *Medical College of Virginia*	*Joseph Wittemann, Ph.D.** *Medical College of Virginia*	*Elizabeth Mason, R.N., Ph.D.* *Medical College of Virginia*
*David Irby, M.Div.** *University of Washington*	*James Clark, Ph.D.* *University of Washington*	
L. Gregory Pawlson, M.D. *University of Washington*	*Sara Giswold, R.D.H.* *University of Washington*	

**Health Science School Coordinators*

68-S77004
December 1977

An assessment of clinical teaching skills and strategies in Medicine, Dentistry, and Nursing.

A Consortium Study funded by the National Library of Medicine. Being conducted by The Ohio State University, The Medical College of Virginia, The University of Alabama, The State University of New York at Buffalo, and The University of Washington.

Dear Clinical Instructor:

We are pleased that the administrative officer to whom we have made contact, and you, have agreed to participate in a short National Study Survey funded by the National Library of Medicine.

The purpose of the study survey, which will be mailed to you for completion is to help assess specific listings of teaching skills and behaviors currently used by teachers responsible for undergraduate clinical instruction. The behavioral survey statements you will be asked to respond to have been carefully collected through structured observations of clinical teaching and critical incidents of teaching reported by students, and have met rigid pretesting criteria after pilot administrations at each of the five major consortium study schools listed above. Your candid responses will be used to help pose alternate approaches for hopefully improving the clinical instruction received by health professional students.

As only selected schools have been asked to participate, your completed responses are crucial to study completion. Complete anonymity will be maintained with regard to both individual participants and participating schools. The confidentiality of your response will be assured through the use of the return envelope marked confidential and through the policy of purging personal names from the data base once follow-up for non-respondents has been completed. Questions related to any aspect of the study may be directed to members of the study team as provided on the back of this sheet. In accordance with federal regulations it is our responsibility to state that your cooperation in responding to the survey form is strictly voluntary.

Thank you again for your willingness to participate!

"The research upon which this material is based is being performed pursuant to Contract No. NO1-LM-5-4746 with the National Library of Medicine, National Institutes of Health, Department of Health, Education and Welfare."

APPENDIX E

INSTITUTIONS AND SCHOOL RESPONDENTS

APPENDIX E

SAMPLE UNIVERSE POPULATION
FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE: Medicine

Geographic Region:	West	Central	East
Public Institution >500	Univ. of Calif.-S.F. UCLA Univ. of Colorado	Univ. of Minn.-Minneapolis Univ. of Oklahoma Univ. of Nebraska Louisiana State Univ. Univ. of Michigan Univ. of Kansas Wayne State Univ. Indiana Univ. Univ. of Texas-Galveston Univ. of Tennessee Univ. of Iowa Ohio State Univ. Univ. of Illinois	New Jersey Med. School S.U.N.Y. Dn.-St. Med. Ctr. Virginia Commonwealth U. Univ. of Pittsburgh Temple Univ. Med. U. of S. Carolina
Public Institution <500	Univ. of Washington Univ. of Calif.-Irvine Univ. of Arizona Univ. of New Mexico Univ. of Hawaii Univ. of Utah Univ. of Oregon	Univ. of Wisconsin Univ. of Alabama Michigan State Univ. Univ. of Arkansas Univ. of Texas-Dallas Univ. of North Dakota Univ. of Texas-San Antonio Univ. of Kentucky Univ. of Louisville Univ. of South Dakota Univ. of Mississippi Univ. of Missouri-Columbia	S.U.N.Y. at Buffalo Medical College of Georgia Univ. of North Carolina Univ. of Florida Univ. of Vermont Univ. of Virginia Rutgers S.U.N.Y. Upstate Med. Ctr. West Virginia Univ.

SAMPLE UNIVERSE POPULATION

FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE: Medicine

Geographic Region:	West	Central	East
Private Institution >500	Stanford University Univ. of Southern Calif.	Northwestern Univ. St. Louis University Tulane University Baylor College of Medicine	Albert Einstein Hahnemann Med. College Columbia University Jefferson Med. College Harvard Medical School University of Miami Univ. of Pennsylvania New York University Georgetown University
Private Institution <500	Loma Linda Univ.	Washington Univ. Univ. of Chicago Meharry Medical College Loyola Univ. of Chicago Creighton Univ. Vanderbilt University Case Western Reserve Univ. Med. College of Wisconsin Chicago Medical School Univ. of Cincinnati	Yale University Bowman Gray School of Med. Howard Univ. Johns Hopkins Univ. Univ. of Rochester George Washington Univ. Mt. Sinai N.Y. Med. College Med. College of Pennsylvania Brown University Dartmouth Emory University Penn State University Albany Medical College Duke University Boston University Cornell University

SAMPLE UNIVERSE POPULATION
FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE: Dentistry

Geographic Region:	West	Central	East
Public Institution >400	Univ. of Calif.-L. A. Univ. of Minnesota	Univ. of Tennessee Indiana Univ. Univ. of Texas-Houston Ohio State University Univ. of Missouri Univ. of Michigan Univ. of Illinois	Univ. of Maryland Virginia Commonwealth Univ.
Public Institution <400	Univ. of Oregon Univ. of Washington Univ. of Calif.-S.F.	Univ. of Iowa Univ. of Kentucky Univ. of Alabama U. of Texas-San Antonio Louisianna State Univ. Univ. of Nebraska Univ. of Louisville	West Virginia Univ. Med. Univ. of So. Carolina S.U.N.Y. at Buffalo Howard University Medical College of Georgia New Jersey Dental School Univ. of Connecticut Univ. of North Carolina
Private Institution >400	Univ. of Southern Calif.	Loyola University Marquette University	Georgetown University New York U.-Brookdale Univ. of Pittsburgh Univ. of Pennsylvania Temple University Tufts University
Private Institution <400	Univ. of the Pacific Loma Linda Univ.	Northwestern Univ. Baylor College of Dentistry Meharry Med. College Univ. of Detroit Case Western Reserve Univ. Creighton University Washington University	Fairleigh Dickinson Univ. Columbia University Harvard School of Dental Med. Emory University

SAMPLE UNIVERSE POPULATION

FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE: Nursing

Geographic Region:	West	Central	East
Public Institution >300	Univ. of Oregon	Univ. of Illinois	Pennsylvania State Univ.
	Calif. St. U.-Long Beach	Univ. of Kentucky	City College School of Nsg.
	Univ. of Washington	Kent State Univ.	Florida State Univ.
	Arizona State Univ.	N. C. Central Univ.	Hunter College
	Calif. St. U.-Los Angeles	Univ. of Wisconsin	Univ. of South Carolina
	Intercollegiate Ctr. for Nsg.	E. Tennessee St. Univ.	East Carolina Univ.
	Univ. of Arizona	Indiana Univ.	Univ. of Connecticut
	Calif. St. U. - Chico	Marquette Univ.	U. of N. C. - Charlotte
	U. of Northern Colorado	Indiana State Univ.	Salem State College-South
	Montana State Univ.	U. of Wisconsin-Milwaukee	Fitchburgh State College
		Univ. of North Dakota	Univ. of Maryland
		Univ. of Michigan	S.U.N.Y. at Plattsburgh
		Ball State Univ.	Univ. of Vermont
		U. of Tenn.-Knoxville	Rhode Island College
		Northern Illinois Univ.	Indiana U. of Pennsylvania
		Northwestern State U.	Univ. of Virginia
		Prarie View Agric. & Mech.	Univ. of Main-Portland
		U. of Southern Louisiana	
		Univ. of Texas	
		South Dakota St. Univ.	
		Univ. of Minnesota	
		Univ. of Missouri	
		Univ. of So. Mississippi	
		Univ. of Alabama	
		Univ. of Iowa	
		Ohio State University	
		Wayne State Univ.	
		Texas Woman's Univ.	
		State College of Arkansas	
		Univ. of Cincinnati	

SAMPLE UNIVERSE POPULATION

FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE Nursing

Geographic Region:	West	Central	East
Public Institution <300	U.C.L.A.	Murray State Univ.	Lowell State College
	Univ. of Utah	Central Missouri St. U.	Florida Agri.& Mech. Univ.
	Calif. St. U.-Hayward	N.C. Agric & Tech St. U.	Valdosota State College
	S.F. State Univ.	Southern Illinois Univ.	Southern Conn. St. College
	Idaho State Univ.	Wichita State Univ.	Univ. of Ala. - Huntsville
	Univ. of Hawaii	Kent State U.-E. Liverpool	Virginia Commonwealth Univ.
	Humbolt State College	Univ. of Akron	S.U.N.Y. Dn. St. Med. Ctr.
	Calif. St. U.-Fresno	Eastern Kentucky Univ.	William Paterson College
	Univ. of Wyoming	Florence State Univ.	Medical U. of S. Carolina
	Univ. of New Mexico	U. of Wisconsin-Oshkosh	Western Carolina Univ.
	Univ. of Colorado	Winona State College	Radford College
	Univ. of Nevada	U. of Tenn.-Chattanooga	E. Stroudsburgh State College
	U. of Calif.-S.F.	N.E. Missouri State Univ.	Western Conn. State College
	San Diego St. Univ.	Wright State Univ.	Univ. of N. Carolina
	Calif. St. U.-Sacramento	Chicago State Univ.	West Chester State College
	San Jose State Univ.	Fort Hays Kansas State College	S.U.N.Y. at Binghamton
		Mankato State College	Univ. of Florida
		Univ. of Nebraska	Rutgers-The State Univ.
		Sanford University	Albany State College
		Michigan State Univ.	Southeastern Mass. Univ.
		Bowling Green State Univ.	Univ. of N. C. - Greensboro
		Univ. of Oklahoma	S.U.N.Y. at Buffalo
		Grand Valley State College	S.U.N.Y. at Stony Brook
		Louisiana State Univ.	Rutgers-Camden
		Kansas St. College of Pitt.	West Virginia Univ.
		Univ. of Wisconsin	Trenton State College
		McNeese State Univ.	Georgia State Univ.
		Univ. of Kansas Med. Ctr.	S.U.N.Y. at Brockport
		Univ. of Tennessee	Edinboro State College
		Southern Louisiana Univ.	Univ. of Rhode Island
		Minot State College	Towson State College

SAMPLE UNIVERSE POPULATION

FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE Nursing (continued)

Geographic Region:	West	Central	East
Public Institution <300 (continued)		Univ. of Arkansas Med. Ctr.	Univ. of New Hampshire
		Central State College	Old Dominion Univ.
		Northeast Louisiana Univ.	Winston-Salem State Univ.
		Jacksonville State Univ.	H. H. Lehman College of C.U.N.
		Univ. of South Alabama	Univ. of Massachusettes
		East Central State College	Federal City College
		Univ. of Nebraska-Orvis	Univ. of South Florida
		West Texas State Univ.	S.U.N.Y. at Albany
		Eastern Michigan Univ.	
		Univ. of Mississippi	

SAMPLE UNIVERSE POPULATION

FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE Nursing

Geographic Region:	West	Central	East
Private Institution >300	Univ. of San Francisco Brigham Young Univ. Walla Walla College Seattle University	Creighton Univ. Mercy College of Detroit College of St. Scholastica Villanova University Baylor University Vanderbilt University Texas Christian Univ. Loyola Univ. Northeastern Univ. Univ. of Evansville Alverno College Viterbo College College of St. Teresa St. Louis U. School of Nsg.	Long Island Univ. Adelphi Univ. Univ. of Delaware Russell Sage College Boston College D'Youville College Malloy College Boston University St. Anselm's College Columbia University Univ. of Pittsburgh Duke University Wagner College Niagra University Seton Hall University

SAMPLE UNIVERSE POPULATION
FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE Nursing

Geographic Region:	West	Central	East
Private Institution <300	Loma Linda Univ.	Dominican College	Emory University
	Alaska Methodist Univ.	Avila College	Pace Univ.-Westchester
	Seattle Pacific College	Baylor College	Salve Regina College
	Biola College	Andrews University	Univ. of Miami-Biscayne
	Westminster College	Augustana College	Our Lady of Angels College
	Marycrest College	College of Mt.St. Joseph	Bloomfield College
	Stanford Univ.	Mount Mercy College	Villa Maria College
	Point Loma College	Gustavas Adolphus College	Barry College
	Carroll College	Incarnate Word College	Skidmore College
	Univ. of Portland	Univ. of St. Thomas	Catholic Univ. of America
	Mt. St. Mary's College	William Carey College	W. Virginia Wesleyan College
	Pacific Lutheran Univ.	Bradley Univ.	Holy Family College
	Loretto Heights College	William Jewell College	Alderson-Broaddus College
		Union College in Lincoln	Roberts Wesleyan College
		Olivet Nazarene College	Duquesne University
		Illinois Wesleyan Univ.	Temple Univ.
		De Paul University	Albright College
		Mississippi College	Fairleigh Dickenson College
		Houston Baptist College	College Misericordia
		Valparaiso University	Hartwick College
		Dillard University	Eastern Mennonite College
		Spalding College	Widener College
		Lewis University	Hampton Institute
		Graceland College	Univ. of Rochester
		St. Xavier College	Keuken College
		St. Mary's College	Wilkes College
		Rush University	Mt. St. Mary's College
		Case Western Reserve Univ.	Univ. of Pennsylvania
		College of St. Catherine	Univ. of Bridgeport
		Depauw University	Simmons College
		North Park College	Thomas Jefferson Univ.
		Mary College	Carlow College

SAMPLE UNIVERSE POPULATION
FOR NATIONAL SURVEY INSTITUTION LISTING

DISCIPLINE Nursing

Geographic Region:	West	Central	East
Private Institution <300 (continued)		St. Olaf College	Howard University
		College of St. Benedict	Columbia Union College
		Goshen College	American University
		Merillac College	Cornell University
		Berea College	Atlantic Christian College
		St. John College-Cleveland	Alfred University
		Southern Missionary College	Lenori Rhyne College
		Capital University	New York University
		Mount Marty College	Farfield Univ.
		Nazareth College-Kalamazoo	Georgetown University
		Marion College	Univ. of Tulsa
		Dallas Baptist College	Tuskegee Institute
		Marian College of Fond Du Lac	Syracuse University
		Iowa Wesleyan College	
		Jamestown College	
		Oklahoma Baptist Univ.	
		Marymount College	

APPENDIX F

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE: MEDICINE, DENTISTRY, NURSING

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE[2]

DISCIPLINE: MEDICINE
PRIORITY: I

TABLE 1

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	INSTRUCTIONAL STRATEGIES 4 SUPPORTIVE	INSTRUCTIONAL STRATEGIES 5 ALTERNATIVE
1. To explain to students what they are expected to learn from the instruction presented by:	1-1. Writing lesson plans and distributing to students.			
	1-2. Developing course outline and distributing to students.			
	1-3. Writing examination items before course begins.			
	1-4. Preparing and distributing course review questions each week.			
	1-5. Asking students to summarize or restate what instructor expects them to learn.			
	1-6. Giving pretest covering material to be learned.			
	1-7. Writing, developing and using learning objectives.			
	1-8. Rehearsing telling students what they are expected to learn (e.g., role play).			
2. To review and criticize the presentation or a guest lecturer by:	2-1. Developing notes on what a lecturer says.			
	2-2. Establishing criteria for the critique of guest presentations.			
	2-3. Instructing students in observation training.			
	2-4. Developing observation skills via use of multimedia.			
	2-5. Developing feedback and summary skills - criteria and practice.			

Key:
L - Lecture
C - Conference
D - Demonstration
PE - Performance Exercise
PI - Programmed Instruction
SA - Study Assignment
T - Tutoring
COM - Combination Instruction

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: 1

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
2. (continued)	2-6. Developing assertive training skills - risk taking skills			
	2-7. Assessing knowledge gain of students.			
3. To instruct how to structure a consultation request to elicit specific information by:	3-1. Organizing a consultation request to elicit specific information.			
	3-2. Describing criteria for structuring consultation request to elicit specific information.			
	3-3. Demonstrating or role play structuring of consultation request.			
	3-4. Describing the structuring of consultation.			
	3-5. Being able to elicit a structure for a consultation.			
	3-6. Practicing micro-teaching a real session using all strategies presented.			
	3-7. Practicing peer teaching with critique.			
4. Describe how one might interact with patients of different age, sex, socioeconomic or ethnic backgrounds by:	4-1. Using films or tapes to stimulate discussion.			
	4-2. Dramatizing or simulating a case presentation.			
	4-3. Employing role play.			
	4-4. Practicing micro-teaching in simulated or real sessions.			
	4-5. Practicing peer teaching critique.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MECICINE
PRIORITY: I

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
4. (continued)	4-6. Designing and employing a colleague critique or assessment of instructor.			
	4-7. Designing and employing a student critique of instructor.			
5. To instruct students on how to select and utilize consultants effectively by:	5-1. Dramatizing or employing a colleague critique or assessment of instructor.			
	5-2. Dramatizing or employing a student critique of instructor.			
	5-3. Defining problems for which answers are needed - identifying those which can be addressed by a consultant.			
	5-4. Specifying ways in which consultants can be used.			
6. To present material in a clear, logical, and organized manner by:	6-1. Describing criteria essential for effective presentations.			
	6-2. Constructing and employing a lesson plan.			
	6-3. Assembling instructor information on delivery styles.			
	6-4. Describing instructor information through lecture, self-instruction, etc.			
	6-5. Demonstrating contrasting teaching styles (e.g., organized vs. disorganized).			
	6-6. Conducting peer critique of lesson plan and presentation.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: 1

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
6. (continued)	6-7. Conducting a student critique of lesson plan and presentation.			
7. To calmly organize and control a chaotic clinical situation by:	7-1. Developing and explaining critieria or guideline for what to do and what not to do in a hypothetical situation.			
	7-2. Employing simulation with faculty and students.			
	7-3. Practicing skills in E.R. with peer review.			
	7-4. Engaging in the recognition of own style.			
	7-5. Writing critical incidents of previous emergency situations.			
	7-6. Examining and discussing trigger films.			
8. To inform students of evaluation criteria for measuring performance by:	8-1. Experiencing a learning situation where criteria for evaluation were not provided.			
	8-2. Utilizing a critical incident technique to judge the efficacy of evaluation criteria.			
	8-3. Describing reasons or rationale for providing criteria to students.			
	8-4. Examining and discussing a videotape interview of students' response to situations where no criteria is presented.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: 1

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
9. To encourage and provide student opportunities to teach by:	9-1. Asking students to demonstrate different instructional modes and techniques.			
	9-2. Requiring students to present case presentations.			
	9-3. Having students instruct other students.			
	9-4. Discussing the advantages of student teaching activity.			
10. To ask students for data and/or literature references to support opinions conclusions by:	10-1. Determining where support for conclusion would not facilitate learning or produce most relevant learning.			
	10-2. Developing and discussing criteria or guidelines for how to ask students to perform the task.			
	10-3. Role playing or simulating how to gather data.			
	10-4. Recognizing one's own style in gathering data.			
	10-5. Providing instructor with rationale for this objective.			
	10-6. Illustrating the importance of data gathering.			
	10-7. Demonstrating the uses of gathered data.			
11. To prepare for class and student sessions by:	11-1. Identifying student needs in clinical setting.			
	11-2. Preparing objectives and lesson plan.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: I

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
11. (continued)	11-3. Developing and distributing session outline.			
	11-4. Discussing strategies for identification of student needs or weaknesses.			
	11-5. Demonstrating differing techniques or strategies for identifying student needs (chart audit).			
	11-6. Practicing differing strategies for identifying student needs (chart audit, questions, student observation, as residents, etc.).			
12. To provide meaningful and accurate estimates of student performance for evaluation, promotion and/or review committees on a regular basis by:	12-1. Developing criteria for estimates.			
	12-2. Developing method of conveying information.			
	12-3. Listing the aims and purposes of student evaluation.			
	12-4. Recording performance - evaluation data.			
	12-5. Participating in rater training activities.			
	12-6. Discussing need for and use of performance data for students, faculty, and administrators.			
	12-7. Discussing the consequences of not maintaining accurate student performance estimates.			
	12-8. Listing the criteria for promotion.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: I

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
13. To recognize students' educational problems by:	13-1. Knowing when and how to refer students with educational problems.			
	13-2. Demonstrating knowledge and understanding of kinds of problems which exist in educational programs.			
	13-3. Recognizing data to be gathered to diagnose educational problems.			
	13-4. Being able to recognize typical and specific educational problems.			
	13-5. Diagnosing how to identify educational problems in specific students.			
	13-6. Developing awareness of and giving information about typical and significant educational problems (e.g., reading skills, study skills, problem solving skills), through lecture, case presentation.			
14. To provide frequent feedback on student performance by:	14-1. Recognizing the importance of providing learning feedback.			
	14-2. Demonstrating giving student feedback.			
	14-3. Distinguishing purposes of different types of feedback.			
	14-4. Discussing implications of delayed feedback on student learning and administrative discussions.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: 1

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
14. (continued)	14-5. Utilizing resources available to provide feedback.			
15. To correct mistakes in a positive and constructive way by:	15-1. (Same as activities for #14 above)			
	15-2. Discussing sample cases of different problems in correcting mistakes.			
	15-3. Analyzing trigger films on providing constructive reinforcement.			
	15-4. Suggesting improvements and prospective evaluation.			
	15-5. Identifying and explaining inappropriate ways of correcting mistakes.			
16. To outline component parts of a complex topic or procedure by:	16-1. Analyzing complicated topics.			
	16-2. Utilizing non technical language to structure into component parts.			
	16-3. Practicing, explaining or discussing medical topics with non-physicians.			
	16-4. Outlining topics prior to presentations.			
	16-5. Selecting a concrete example of a breakdown of topic.			
	16-6. Demonstrating adequate and inadequate breakdown of complex topics.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: I

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
16. (continued)	16-7. Learning to explain a topic without repeating any of the same nouns or key words.			
17. To ask students about difficulties on service by:	17-1. Developing format for questioning.			
	17-2. Describing students most common problems in clinical learning.			
	17-3. Setting up periodic meetings with students.			
	17-4. Training in listening skills and in non defensive probing of student.			
	17-5. Simulating relationships through game or role playing.			
18. To provide consistency in the critique of student performance by:	18-1. Providing observer training.			
	18-2. Critiquing videotape playbacks.			
	18-3. Leading faculty discussions on expected performance criteria.			
	18-4. Reconciling differences in evaluation ratings.			
	18-5. Discussing opportunities to participate in observer training activities.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: 1

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
19. To provide time for discussion with individual students by:	19-1. Demonstrating skills of time management and schedule periodic conferences with individual students.			
	19-2. Describing purposes of individual conferences for both student and teacher.			
20. To convey a willingness to learn from students by:	20-1. Demonstrating improvement in listening skills.			
	20-2. Developing sensitivity toward learning by being aware of personal/professional concerns of students.			
	20-3. Describing benefits to be gained from student learning.			
	20-4. Employing attitudes which elicit student response/reaction.			
	20-5. Recognizing and expressing qualities of openness, warmth, etc.			
	20-6. Describing what is meant by interpersonal process recall.			
21. To convey respect for other specialties, disciplines, and professions by:	21-1. Demonstrating a knowledge of methods which can be employed to gather data (critical incident, nominal group, etc.).			
	21-2. Simulating disparaging remarks in terms of their own field and profession.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: I

Table 1 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
21. (continued)	21-3. Discussing problems of stereotyping. 21-4. Demonstrating positive role modeling techniques. 21-5. Leading discussions on the topic.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

TABLE 2

DISCIPLINE: MEDICINE
PRIORITY: II

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
1. To summarize major points at appropriate times during instruction by:	1-1. Developing criteria for summarizing instruction.			
	1-2. Identifying major issues and difficult concepts before instructional session.			
	1-3. Asking students to summarize.			
	1-4. Developing reportoire of ways to summarize.			
	1-5. Attention to timing of summarization beginning, after each point, and at end.			
	1-6. Relating each major point to proceding major points.			
	1-7. Developing a summary strategy which includes the presentation of information, use of examples, and practice in observation, and discussion summary.			
	1-8. Summarizing major points at appropriate times during instruction.			
2. To outline problem-solving approaches to the case by:	2-1. Designing a handout covering accepted approaches to problem solving.			
	2-2. Explaining alternate ways to solve case and have student decide best.			
	2-3. Discussing outcome, pros and cons of various approaches to case solution.			

Key:
L - Lecture
C - Conference
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PI - Programmed Instruction
SA - Study Assignment
T - Tutoring
COM - Combination Instruction

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1	2	INSTRUCTIONAL STRATEGIES		
OBJECTIVES	ACTIVITIES	3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
2. (continued)	2-4. Having each student develop a different primary diagnosis and explain indication and outcome.			
3. To check selected elements of student work-up by interviewing or examining patient in presence of students by:	3-1 Identifying key elements of such an interaction. Ask students to demonstrate and document elements.			
4. To demonstrate specific clinical techniques by:	4-1. Identifying critical elements of techniques.			
	4-2. Alerting student to critical element and to difficulties to be encountered. Apprise of advantages and disadvantages of alternative techniques.			
	4-3. Identifying and apprise students of cues at each step, re: whether done correctly.			
	4-4. Making sure student can see demonstration.			
5. To relate educational reading material to a current patient by:	5-1. Asking student to look up and report topic(s) relevant to patient.			
	5-2. Describing the patient in relation to current research.			
	5-3. Relating specific element of work-up to current literature.			
	5-4. Preparing bibliography(ies) of relevant topic.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
6. To describe how to perform a high quality clinical exam as related to a specific case by:	6-1. Determining what's important to note in particular case.			
	6-2. Presenting several ways to check similar findings.			
	6-3. Suggesting relevant shortcuts in the case.			
	6-4. Distinguishing between objective and subjective signs.			
7. To stimulate student interest in a specific patient during case presentation by:	7-1. Calling the student by his/her name.			
	7-2. Pointing out interesting or challenging aspects of the case.			
	7-3. Identifying or asking the student(s) to describe unique elements of case or prognosis.			
8. To inform student(s) of evaluation criteria for measuring his/her performance by:	8-1. Describing student course objectives.			
	8-2. Telling how attainment of objectives will be measured.			
	8-3. Preparing and distribute a course syllabus.			
9. To explain incorrect responses to questions by:	9-1. See #15 (Priority I Item)			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
10. To ask for a "problem listing" on the patient by:	10-1. Learning Problem Oriented Record.			
	10-2. Practicing Problem Oriented Record.			
	10-3. Developing questioning skills.			
	10-4. Asking for priority of problem.			
11. To ask student to differentiate between essential and non-essential data by:	11-1. Learning effective questioning techniques.			
	11-2. Determining what is essential and non-essential.			
	11-3. Peer reviewing re: essential data.			
12. To ask questions which make student use deductive reasoning by:	12-1. Writing illustrating questions which show deductive reasoning.			
	12-2. Developing criteria for deductive reasoning.			
	12-3. Practice asking questions.			
13. To ask student for successive management steps by:	13-1. Knowing successive steps in logical order.			
	13-2. Giving hypothetical cases and asking/comparing to peer standard.			
	13-3. POR format.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
14. To present behavioral, social, family and financial factors in decisions regarding patient management by:	14-1. Refer to #4 (Priority I Item) - also Identifying critical management interviews highly affected by these factors.			
	14-2. Providing case studies illustrating influence of these variables.			
15. To point out student's missed observations by:	15-1. Deciding what student should notice.			
	15-2. Writing observation reports.			
	Also # 15 (Priority I Item)			
16. To respond enthusiastically to questions by:	16-1. Defining and describing enthusiasm.			
	16-2. Using questions as an opportunity to make point with student's full attention.			
	16-3. Practicing enthusiasm.			
17. To encourage students while they are performing procedures by:	17-1. Describing using the technique of positive reinforcement.			
	17-2. Distinguish the important things to reinforce.			
	17-3. Become knowledgeable of literature on reinforcement psychology.			
	17-4. Anticipating discouraging events and prepare student in advance.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	4 ALTERNATIVE
18. To give positive verbal reinforcement on clinical performance by:	18-1. See #17 above (same)			
19. To assess and focus on level of student understanding of topic by:	19-1. Developing questioning skills re: present understanding.			
	19-2. Developing skills in the design and use of pre-tests.			
	19-3. Becoming familiar with appropriate language and concepts.			
	19-4. Encouraging student(s) to interrupt and question at appropriate times.			
	19-5. Sensitizing student(s) to periodically summarize.			
	19-6. Examining student(s) for feedback at appropriate content levels.			
	19-7. Demonstrating skill in addressing topic misunderstanding.			
	19-8. Demonstrating skill in the use of higher order questions.			
	19-9. Demonstrating skill in developing and using clinical evaluation.			
20. To ask students for feedback and suggestions for improving learning experience on the service by:	20-1. Developing alternate strategies for gathering feedback data.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
20. (continued)	20-2. Developing alternate strategies for evaluating feedback data. Also - See # 17 (Priority I Item)			
21. To convey a tolerance for uncertainty in medical problems by:	21-1. Practicing and assess role modeling strategies. 21-2. Illustrating and discussing examples of humble, tolerating and arrogant intolerance. 21-3. Developing skill in the use of trigger films to induce in faculty a sense of helplessness to discuss specific ways of handling uncertainty.			
22. To demonstrate an interest in the students' efforts to learn by:	22-1. Recognizing and retaining learners' first names. 22-2. Demonstrating techniques for establishing rapport. 22-3. Skillfully questioning current learning. 22-4. Providing appropriate assistance when problems in learning are identified. 22-5. Identifying student learning style.			
23. To admit limits of own medical knowledge and experience by:	23-1. Delineating areas of strength and weakness. 23-2. Discussing how it feels to admit ignorance.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
23. (continued)	23-3. Practicing in a role playing situation - "I don't know".			
24. To emphasize promptness for teaching sessions by:	24-1. Role playing the experience of lateness.			
	24-2. Developing techniques to insure that tardiness is not ignored.			
	24-3. Formulating a plan for recognizing and dealing with tardiness.			
25. To provide for student participation in the instructional process by:	25-1. Discussing alternative mechanisms for student participation.			
	25-2. Practicing technique for employing and assessing methods for student participation.			
	25-3. Having students design and present case examples of problems.			
	25-4. Designing reading assignments for session presentation.			
26. To convey and demonstrate leadership skill as a professional attribute by:	26-1. Behaviorally define leadership.			
	26-2. Assessing game-playing situations dealing with problems in professional management.			
	26-3. Identifying one's own style of leadership.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: MEDICINE
PRIORITY: II

Table 2 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
26. (Continued)	26-4. Identifying and giving example of characteristics of professional style and behavior.			
27. To demonstrate critical appraisal of lab data, and consultant recommendations by:	27-1. Developing and communicating criteria for appraisal.			
	27-2. Relating data to problem list.			
	27-3. Providing opportunities for students to demonstrate skill in appraisal techniques.			
28. To encourage students to evaluate critically lab data, consultant recommendations, etc. by:	Same as # 27- also			
	28-1. Assessing whether consultant or lab answered question asked.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: I

TABLE 3

1	2	INSTRUCTIONAL STRATEGIES		
OBJECTIVES	ACTIVITIES	3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
1. To explain to students what they are expected to learn from the instruction presented by:	1-1. Being able to state objectives according to a prescribed way.			
	1-2. Practicing statement of objectives to students.			
	1-3. Identifying and writing the sequential steps of the clinical task.			
	1-4. Evaluating the clinical task in a positive way.			
	1-5. Observing oneself on videotape when explaining expectations.			
	1-6. Recording your expectations on an audiotape for review and critique with a colleague.			
	1-7. Pointing out the importance and relevancy of the instructions being undertaken.			
2. To use audiovisual aids or 2 or 3 dimensional aids (when appropriate) in describing techniques or concepts that are different by:	2-1. Being able to prepare visual aids.			
	2-2. Identifying situations or conditions in which the use of A.V. aids would be beneficial to instruction.			
	2-3. Being able to state and use criteria and standards for evaluating A.V. methods in order to select the most appropriate method.			
	2-4. Being able to use A.V. aids.			

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GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: 1

Table 3 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
2. (continued)	2-5. Being able to state and use, criteria and standards for evaluating the quality of A.V.'s.			
	2-6. Listing current sources which lend, distribute, give or produce A.V. resources.			
	2-7. Being able to recognize, evaluate, and state the benefits or (liabilities) of various A.V.'s to the student.			
3. To summarize the tasks that are necessary in order to accomplish the objective(s) by:	3-1. Being able to identify the specific steps needed to accomplish the objective.			
	3-2. Being able to identify the appropriate time when summarization is needed.			
	3-3. Being able to identify the main points of the summary succinctly.			
	3-4. Asking the student to comment on the major points made in the summary.			
4. To establish a time frame necessary for students to accomplish the objective(s) by:	4-1. Knowing how long a procedure (task) will take for an average student by assessing a random number of students/procedure.			
	4-2. Identifying time wasters in completing (X) procedure(s).			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: I

Table 3 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
4. (continued)	4-3. Pointing out to students where he/she is wasting time.			
	4-4. Being able to give suggestions as to how to use time more effectively.			
	4-5. Being able to identify potential complications in completing the procedure(s).			
5. To demonstrate skill or explaining estimates of expenses to patients by:	5-1. Being able to define alternative treatment protocols.			
	5-2. Being able to cost account alternative plan.			
	5-3. Being able to state advantages and disadvantages of the treatment(s) alternatives which are recommended.			
	5-4. Being a role model in providing expense estimates to patients for the student.			
	5-5. Critiquing various approaches to estimate/explain expenses to patients.			
	5-6. Being able to communicate about fees to patients.			
	5-7. Interacting with patients to discuss his/her financial situation.			
6. To exhibit one's ability to follow-up students by:	6-1. Keeping active records on students' progress.			
	6-2. Selecting a follow-up procedure to include a time table.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: I

Table 3 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
6. (continued)	6-3. Knowing when to follow-up students.			
	6-4. Checking periodically on student during his/her clinical treatment.			
7. To demonstrate the use of a planned variety of instructional activity (e.g., questioning, demonstration, etc.) by:	7-1. Being aware of alternative teaching techniques.			
	7-2. Understanding impact of alternative teaching techniques.			
	7-3. Videotaping oneself using alternative teaching techniques.			
	7-4. Being aware of the appropriateness of the various teaching techniques by developing criteria.			
8. To identify a student's strengths/weaknesses in his current skill level by:	8-1. Identifying various types of students strengths and weaknesses.			
	8-2. Identifying situations that impact on the student.			
	8-3. Describing and demonstrating the skill level expected of the student.			
	8-4. Specifying the students' perception of his/her skills.			
	8-5. Identifying methods to evaluate students' strengths and weaknesses. (ability to use task analysis procedures).			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: I

Table 3 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
8. (continued)	8-6. Being able to categorize students' strengths and weaknesses.			
9. To ask students for positive or negative comments on suggested techniques (procedures) by: To ask students to comment on specific procedures during treatment by: To ask student to participate in his learning by discussing, i.e., procedures, etc. by: To ask student to define questions which need to be asked to acceptably resolve a patient's treatment or management problems by: To ask students to identify strengths and weaknesses in their own performance by:	9-1. Being able to demonstrate questioning skills. 9-2. Having students practice questioning skills by videotape. 9-3. Being able to interpret feedback from students' by restating the information. 9-4. Being able to develop a logical sequence of questioning by active listening. 9-5. Being able to demonstrate management skills.			
10. To describe requisite behavior prior to a student beginning a procedure by:	10-1. Being able to demonstrate what the expected behavior is to student(s). 10-2. Having available positive models on videotape. 10-3. Providing the student(s) with a task analysis.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: 1

Table 3 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
10. (continued)	10-4. Providing the student(s) with a specific pre-procedure protocol in writing.			
11. To provide students with a systematic evaluation of their progress by:	11-1. Knowing how to set-up an evaluation system.			
	11-2. Setting up evaluation mechanisms within the system.			
	11-3. Using task analysis approach in checking off specific procedure(s) in accounting for student progress.			
	11-4. Being able to give students feedback on their progress.			
	11-5. Evaluating the evaluation system.			
12. To summarize important points by:	12 Refer to A-3			
13. To plan for discussion time during instruction by:	13-1. Being able to schedule time for discussion.			
	13-2. Arranging for small group seminars.			
	13-3. Estimating time need for students regarding discussion.			
	13-4. Illustrating the importance of discussion needs.			
14. To demonstrate ones perceptiveness to students' problems by:	14-1. Being able to engage in active listening skills.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: 1

Table 3 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
14. (continued)	14-2. Being able to relate information to students at a level he/she understands.			
	14-3. Being able to select appropriate time in responding to students needs or problems.			
	14-4. Being familiar with the requirements, situations and demands being placed upon the students in total.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

TABLE 4

DISCIPLINE: DENTISTRY
PRIORITY: II

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
1. To demonstrate the proper use of instruments and equipment by:	1-1. Knowing how to use charts, video-tapes, other audio-visuals in demonstrating the use of instruments and equipment.			
	1-2. Knowing how to use equipment and practice using it before demonstrating its use to the class.			
	1-3. Knowing common errors in using the equipment.			
2. To clarify patient management problems by:	2-1. Identifying patient management problems.			
	2-2. Listing common management problems.			
	2-3. Comparing common management problems.			
	2-4. Evaluating patient management responses.			
	2-5. Designing positive solutions to management problems.			
3. To explain the rationale for a particular treatment modality by:	3-1. Knowing how to diagnose differentially.			
	3-2. Designing alternative treatment plans.			
	3-3. Contrasting alternative treatment plans.			
	3-4. Selecting a single treatment modality.			
	3-5. Organizing case information and rationale.			
	3-6. Writing alternatives for treatment, their rationale (pro and con) and discuss your results with a peer.			

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GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: II

Table 4 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
3. (continued)	3-7. Being able to speak in front of a group of students.			
4. To demonstrate clinical procedures at a rate of speed appropriate to the students' needs by:	4-1. Being aware of student progress.			
	4-2. Observing student's ability to follow directions.			
	4-3. Checking student's rate of retention.			
	4-4. Estimating time demands for completing a(the) clinical procedure.			
	4-5. Preparing a detailed listing of tasks within the procedures.			
5. To explain alternate treatment plans to student by:	5-1. Understanding varying communication patterns.			
	5-2. Being able to write on paper, treatment plans and their rationale, (pro - con). Then discuss or submit that plan to a peer for review and feedback.			
	5-3. Watching on video a good instructor explain alternative treatment plans to a student.			
	5-4. Reading a handout explaining what factors enter in when considering alternative treatment, i.e., economic, complexity, age.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: II

Table 4 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
6. To ask student if assistance is needed before beginning the procedure by:	6-1. Being able to ask questions to maximize learning efforts.			
To ask student to describe course of treatment by:	6-2. Becoming knowledgeable in practice questioning techniques.			
	6-3. Becoming knowledgeable in recognizing nonverbal uses that would signal that the student might need some help.			
	6-4. Knowing and practicing statements and clarification techniques in order to assist the student describe his/her own course of treatment.			
7. To explain patient care decisions to students by:	7-1. Engaging role playing exercises.			
	7-2. Knowing what level the student is at, so that the explanation will be understood and will further the student's knowledge.			
8. To demonstrate ability to actively listen to student by:	8-1. Learning the dynamics of active listening.			
To restate, reflect, or clarify student's explanation by:	8-2. Attending workshop on interviewing techniques (including active listening process).			
To demonstrate ability to provide reinforcement when a student responds to a question by:	8-3. Producing and participating in trigger tapes that will allow the instructor to practice active listening and receive comments and suggestions upon how to improve from peers or a consultant.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: II

Table 4 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
8. (continued)	8-4. Role playing with peers.			
	8-5. Knowing and practicing critical incident techniques especially to identify and practice stating the positive critical behaviors.			
9. To consult with students regarding their progress on procedures by:	9-1. Demonstrating personality characteristics and consulting techniques.			
To demonstrate empathy to students when appropriate by:	9-2. Analyzing tasks from student perspective of progress.			
	9-3. Demonstrating how to be a consultant.			
	9-4. Applying communication skills in an empathetic way.			
10. To allow time for student to express differing opinions by:	10-1. Practicing active listening when listening to differing opinions.			
	10-2. Knowing the value of allowing the students time to express differing opinions.			
11. To encourage students to ask questions by:	11-1. Participating in interaction analysis.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: DENTISTRY
PRIORITY: II

Table 4 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
12. To explain practical approaches to the management of patient problems in ways that are clearly understood by the student by:	12-1. Knowing and categorizing potential problems.			
	12-2. Organizing problems in a meaningful way.			
	12-3. Describing problems to students in a logical way.			
	12-4. Answering questions about patient problems.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

TABLE 5

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
1. To select appropriate teaching aids by:	1-1. Reviewing the inventory of teaching aids already owned by the School of Nursing.			
	1-2. Reviewing catalogs of teaching aids from other on-campus academic units.			
	1-3. Identifying through readings, workshops, etc., the instructional advantages and limitations of a variety of teaching aids.			
	1-4. Reviewing professional journals and advertisements in journal articles for information on new teaching aids.			
	1-5. Consulting with other colleagues who use teaching aids effectively.			
2. To demonstrate, with student as observer, client teaching and assessment (presenting behaviors and history) by:	2-1. Reviewing (or learning):			
	a) steps in assessment			
	b) process of assessment			
	c) content of assessment			
	d) principles of teaching/learning			
	e) techniques of patient teaching			
	2-2. Practicing:			
	a) assessment (without students present)			

Key:
L - Lecture
C - Conference
D - Demonstration
PE - Performance Exercise
PI - Programmed Instruction
SA - Study Assignment
T - Tutoring
COM - Combination Instruction

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
2. (Continued)	b) patient teaching without students present			
	2-3. Critiquing "practice assessments" and "practice teaching" observed/critiqued by experienced colleagues.			
	2-4. Reviewing (or learning) techniques involved in demonstration-type teaching.			
	2-5. Videotaping and critiquing your teaching performance.			
	2-6. Observing assessment skills and client teaching performed by an experienced colleague.			
3. To involve agency staff in planning learning experiences by:	3-1. Describing organizational structure and communication channels (formal & informal) which function in the agency.			
	3-2. Describing principles and procedures involved in effective collaboration.			
	3-3. Preparing written materials which clearly appraise agency staff of the overall goals.			
	3-4. Soliciting input from staff (formally & informally) re: the effective incorporation of the students into the ongoing operation of the agency.			
	3-5. Talking with a colleague who has had successful experience with that agency re: the "best ways to operate" within that particular system.			
	3-6. Consulting with a colleague who has been successful in developing cooperative relationships with agency staff.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
3. (Continued)	3-7. Evaluating how agency staff perceive their role in relation to planning/learning experiences for students.			
	3-8. Developing systematic way of seeking advice from agency staff in planning learning experiences.			
4. To assist agency staff in evaluating learning experiences by:	4-1. Reviewing the organizational structure and communication channels (formal and informal) existing in the agency.			
	4-2. Reviewing principles and techniques involved in the development of effective collaborative relationships.			
	4-3. Consulting with a colleague who has been successful in developing cooperative relationships with agency staff.			
	4-4. Preparing written materials which clearly appraise agency staff of the criteria for evaluating learning experiences.			
	4-5. Determining how agency staff perceive their role in relation to evaluation of learning experiences.			
	4-6. Developing a systematic way of soliciting evaluation data from agency staff.			
5. To question students to determine students' understanding of objectives of the clinical experience by:	5-1. Learning how to write good educational objectives.			
	5-2. Practicing writing objectives.			
	5-3. Objectives critiqued by experienced colleague.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
5. (Continued)	5-4. Distributing objectives to students prior to the clinica experience.			
	5-5. Practicing effective questioning and response techniques			
	5-6. Formulating questions to reflect the intellectual operation specified in the objective (i.e. application, analysis, synthesis, etc.)			
	5-7. Setting aside time for questioning students as part of the clinical experience.			
6. To question students to assess students' understanding of the planned completed clinical experience in terms of the relationship to the unit being studied by:	6-1. Planning for questioning as an integral part of the clinical experience.			
	6-2. Reviewing (or learning) effective question-asking and response techniques.			
	6-3. Incorporating specific clinical experience and objectives into the entire instructional unit of which it is a part			
	6-4. Analyzing questions in terms of taxonomic classification of required knowledge.			
7. To assist students in understanding the contributions of other health team members to client care by:	7-1. Talking to other health team members and finding out their professional roles.			
	7-2. Inviting other health team members to conferences and other learning situations where students are present.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
7. (Continued)	7-3. Asking other health team members to invite students to their conferences whenever feasible.			
	7-4. Including the roles of other health team members in didactic and clinical presentations to students.			
	7-5. Teaching students how to consult with other health team members when appropriate.			
	7-6. Inviting students to attend interdisciplinary workshops and conferences.			
	7-7. Encouraging students to assess other HTMs when appropriate in patient care.			
8. To help students apply research findings by:	8-1. Reviewing the components of the research process.			
	8-2. Relating research findings to clinical practice.			
	8-3. Keeping informed about current research relevant to the patient care settings in which students practice.			
	8-4. Including appropriate research studies in students' reading assignments.			
	8-5. Involving students in ongoing research conducted in the client care settings where they practice when appropriate.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
9. To explain relationships between clinical assignment and educational objectives by:	9-1. Studying the relationship between educational objectives and clinical experience.			
	9-2. Practicing writing effective educational objectives.			
	9-3. Reviewing (or learning) principles of making clinical assignments.			
	9-4. Learning the nature of "nonverbal" responses which students give that can indicate to you whether or not they understood what you explained.			
	9-5. Videotaping your explanation and having it critiqued by experienced colleague(s).			
	9-6. Learning how to use educational objectives as the basis for selecting the client care setting.			
	9-7. Developing specific criteria for choosing a clinical assignment.			
	9-8. Scheduling specific time to explain relationship between clinical assignment and educational objectives.			
10. To maintain notes for reporting and discussing student progress after each clinical experience by:	10-1. Identifying, in advance of the experience, incidents that are critical to the students' achievement of clinical objectives.			
	10-2. Studying techniques of observation.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: 1

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
10. (Continued)	10-3. Developing a method of concise, accurate recording of student behaviors.			
	10-4. Scheduling specific time within the clinical experience to observe and record student behaviors.			
	10-5. Learning how to use positive and negative feedback mechanisms to indicate specific ways in which students can maintain and/or improve their performance.			
11. To observe condition of client assigned to each student with an eye to client-related barriers which may inhibit student from meeting delineated instructional objectives by:	11-1. Translating process and content of client assessment into appropriate treatment plan.			
	11-2. Analyzing outcomes of client assessment in terms of the learning objectives which have been specified for the student.			
	11-3. Assessing clients assigned to students by interview and examination and by reviewing the clients' records.			
12. To remain objective in student evaluation by:	12-1. Reviewing or learning elements in the evaluation process.			
	12-2. Establishing, *a priori*, the specific criteria by which all students will be evaluated.			
	12-3. Developing a consistent system for data collection			
	12-4. Using the same evaluation tool for all students achieving the same objectives.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
13. To remain perceptive to student needs and problems by:	13-1. Reading current literature about student needs and problems.			
	13-2. Consulting with experienced colleagues about the nature of student needs and problems.			
	13-3. Listening to students.			
	13-4. Assessing non-verbal cues from students.			
	13-5. Avoiding giving inhibitory non-verbal or verbal responses to students.			
	13-6. Observing interactions among students in clinical settings.			
	13-7. Anticipating client-related situations which are likely to cause student stress.			
14. To identify realistic expectations regarding student performance by:	14-1. Familiarizing yourself with the level of performance expected of students prior to the experience currently being evaluated.			
	14-2. Carrying out the activities/assignments required of students to determine whether expectation~~s~~ is realistic.			
	14-3. Recording signs of student stress related to excessive requirements.			
	14-4. Evaluating the actual experience~~s~~ you have assigned the students and determine if it's a reasonable expectation.			

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INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: 1

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
14. (Continued)	14-5. Observing signs of "overload-related" student stress.			
	14-6. Assessing an "expected progress" rate in order to regularly assess actual student progress as "expected."			
15. To organize teaching strategies to achieve specified goals by:	15-1. Reviewing the advantages and limitations of a variety of teaching methods.			
	15-2. Studying techniques of eliciting student feedback regarding effectiveness of teaching method.			
	15-3. Using experienced colleagues to critique teaching methods.			
	15-4. Planning alternative teaching strategies when developing teaching plan.			
16. To assist students in seeking client's contribution in developing a health care plan by:	16-1. Reviewing principles of interpersonal communication with clients.			
	16-2. Planning the clinical experience such that the client contributes to his/her own health care plan.			
	16-3. Question student about client's role in planning care.			
17. To assist students in understanding issues which affect the profession of nursing by:	17-1. Studying the relevant issues in nursing and their historical precedents.			
	17-2. Identifying resource materials which can keep you and your students up to date.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: I

Table 5 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
17. (Continued)	17-3. Discussing the issues with knowledgeable persons inside and outside your own school of nursing. 17-4. Identifying resource persons and materials to which students can be referred. 17-5. Discussing professional issues with nursing colleagues and other knowledgeable persons. 17-6. Participating actively in professional organizations. 17-7. Relating professional issues to clinical practices whenever relevant.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

TABLE 6

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
1. To demonstrate, with student as observer, interpersonal relationships with clients by:	1-1. Examining the principles and techniques of effective IPR.			
	1-2. Observing an experienced colleague interacting with clients.			
	1-3. Practicing communication skills without students present.			
	1-4. Carrying out a "practice" demonstration of interpersonal skills observed and critiqued by an experienced colleague.			
	1-5. Videotaping demonstration of interpersonal skills with follow-up critique by self and/or others.			
2. Demonstrate, with student as observer, relationships with other health team members by:	2-1. Reviewing (or learning) general principles and techniques of effective IPR.			
	2-2. Becoming familiar with the roles of other health team members.			
3. To demonstrate effective clinical nursing techniques by:	3-1. Reviewing or learning general principles and techniques of effective clinical nursing techniques.			
	3-2. Observing experienced colleagues demonstrate clinical nursing techniques.			
	3-3. Practicing clinical nursing techniques without students present.			

Key:
L - Lecture
C - Conference
D - Demonstration
PE - Performance Exercise
PI - Programmed Instruction
SA - Study Assignment
T - Tutoring
COM - Combination Instruction

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
3. (Continued)	3-4. Carrying out "practice" demonstrations of clinical nursing techniques observed and critiqued by an experienced colleague.			
	3-5. Providing examples to highlight and clarify content.			
4. To respond succinctly to questions by:	4-1. Giving all students a stopwatch and a gong and establish criteria for when to ring gong.			
	4-2. Tape recording question and answer session with students to analyze interaction (ala Flanders).			
	4-3. Videotaping classroom and/or conference period and analyzing answers to questions in terms of clarity and brevity.			
	4-4. Videotaping for succinctness and distracting mannerisms.			
5. To demonstrate nursing care rather than tell about it by:	5-1. Reviewing or learning general principles and techniques of effective clinical nursing techniques.			
	5-2. Observing experienced colleagues demonstrate clinical nursing techniques.			
	5-3. Practicing clinical nursing techniques without students present.			
	5-4. Carrying out "practice" demonstrations of clinical nursing techniques observed and critiqued by an experienced colleague.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
6. To select clinical experiences that require students to use decision-making skills by:	6-1. Reviewing or learning principles and processes of decision-making.			
	6-2. Practicing the level of decision-making required by the clinical experience congruent with the student's ability level.			
	6-3. Identifying the legal limits for decisions made by students and the institutions's policy regarding legal responsibility.			
7. To involve agency staff in implementing learning experiences by:	7-1. Assessing the capabilities of individual staff members so that skills and student needs can be matched.			
	7-2. Giving staff members positive reinforcement about their particular areas of competence.			
	7-3. Studying organizational structure and communication channels (formal & informal) which function in the agency.			
	7-4. Preparing written materials which clearly appraise agency staff of the overall goals and objectives of students' clinical experience. Learn how to solicit input from staff (formally and informally) re: the effective incorporation of the staff into the agency operation.			
8. To provide examples to highlight and clarify content by:	8-1. Discussing content thoroughly with students.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
8. (Continued)	8-2. Developing a lesson plan that includes anecdotes of actual personal experiences that illustrate content.			
9. To question students to assess students' ability to identify various client manifestations as examples of particular physiological or psychological conditions about which the student should know by:	9-1. Practicing writing objectives and have them reviewed by experienced colleagues. 9-2. Identifying learning objectives. 9-3. Developing questioning and response techniques. 9-4. Identifying discrepancies between the textbook and the real-life situation. 9-5. Distributing objectives to students prior to the clinical experience. 9-6. Scheduling time for questioning students as part of the clinical experience. 9-7. Assigning clients to students according to the educational objectives. 9-8. Assessing the physiological psychological condition of the client and compare with textbook picture.			
10. To question students to determine students' knowledge regarding the acceptable limits of "normalcy" in client condition by:	10-1. Practicing writing objectives and have them reviewed by experienced colleagues. 10-2. Identifying learning objectives. 10-3. Developing questioning and response techniques.			

GUIDE TO THE SELECTION OF INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
10. (Continued)	10-4. Identifying discrepancies between the textbook and the real-life situation.			
	10-5. Distributing objectives to students prior to the clinical experience.			
	10-6. Scheduling time for questioning students as part of the clinical experience.			
	10-7. Assigning clients to students according to the educational objectives.			
	10-8. Assessing the physiological psychological condition of the client and comparing with textbook picture.			
11. To question students to encourage students to identify and verbalize their own feelings about the patient, his condition, and the care the student gave the client by:	11-1. Planning for questioning as an integral part of the clinical experience.			
	11-2. Reviewing (or learning) effective question-asking and response techniques.			
	11-3. Incorporating specific clinical experience and learning objectives into the entire instructional unit of which it is a part.			
	11-4. Analyzing questions in terms of taxonomic classification of required knowledge.			
	11-5. Assisting students to verbalize feelings.			
	11-6. Listening to students and their questions.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
11. (Continued)	11-7. Observing student/student interaction in clinical setting			
	11-8. Studying and anticipating client-related situations which are likely to cause students stress.			
	11-9. Learning how to assess non-verbal cues from students.			
	11-10. Avoiding inhibitory non-verbal or verbal responses to students.			
12. To question students to assess their ability to correctly interpret laboratory chart, or equipment data by:	12-1. Practicing effective questioning and response techniques			
	12-2. Formulating questions to elicit interpretation of laboratory, chart or equipment data.			
	12-3. Assessing laboratory, chart or equipment data for clients assigned to students.			
	12-4. Drawing inferences from data.			
13. To discuss student objectives for clinical care by:	13-1. Identifying effective discussion techniques.			
	13-2. Identifying objectives and needs of the clients.			
	13-3. Assessing the needs of the clients.			
14. To summarize outcomes of learning experiences for students by:	14-1. Reviewing or learning techniques for summarizing learning outcomes.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
14. (Continued)	14-2. Listing the primary objectives for each clinical experience.			
	14-3. Planning time in each clinical experience for a summary session.			
	14-4. Practicing incorporating data notes and observations from that day into the summary——immediate reinforcement is important.			
15. To facilitate communications between students and other health care professionals by:	15-1. Inviting other health care professionals to conferences and other learning situations where students are present.			
	15-2. Asking other health care professionals to invite students to their conferences whenever feasible.			
	15-3. Including the roles of other health care professionals in didactic and clinical presentations to students.			
	15-4. Teaching students how to consult with other health care professionals when appropriate.			
	15-5. Inviting students to attend interdisciplinary workshops and conferences.			
	15-6. Assigning students to clients who need the services of other health care professionals.			
	15-7. Planning clinical experiences in which other HTMs are involved.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
16. To maintain a listing of students' learning experiences by:	16-1. Defining the educational objectives for the students' experience.			
	16-2. Formulating a checklist of learning experiences that are related to the educational objectives.			
	16-3. Planning time to allow for frequent updating of checklist of learning experiences.			
	16-4. Evaluating student learning experiences.			
	16-5. Providing students with performance feedback.			
17. To review with students their preparation for the clinical experience by:	17-1. Planning time for a review session prior to each clinical experience.			
	17-2. Planning for questioning as an integral part of the clinical experience.			
	17-3. Reviewing (or learning) effective question and response techniques.			
	17-4. Incorporating specific clinical experiences and objectives into the entire instructional unit of which it is a part.			
	17-5. Analyzing questions in terms of taxonomic classification of required knowledge.			
	17-6. Distributing objectives to students prior to the clinical experience.			

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INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES		
		3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
17. (Continued)	17-7. Establishing a communication system by which students are given significant client information prior to the clinical experience.			
	17-8. Reviewing the students' cognitive and experiential background as a basis for judging quality of student preparation.			
18. To encourage students to consider alternative approaches to client problems by:	18-1. Defining alternative approaches to solving client problem.			
	18-2. Selecting clinical experiences that are congruent with students' level of knowledge.			
	18-3. Identifying techniques used in problem-solving activities.			
	18-4. Practicing questioning skills with students to determine whether they have considered alternative approaches to client problems.			
	18-5. Planning to utilize problem-solving techniques as part of clinical teaching strategies.			
	18-6. Selecting clinical experiences that allow use of alternate approaches.			
	18-7. Identifying mechanisms of providing positive feedback to students who demonstrate ability to use alternative approaches to client problems.			

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DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	 4 SUPPORTIVE	 5 ALTERNATIVE
19. To observe progress toward meeting instructional objectives made by students assigned to "difficult" clients by:	19-1. Reviewing process and content of client assessment.			
	19-2. Analyzing outcome of client assessment in terms of the learning objectives which have been specified for the student.			
	19-3. Examining the appropriate instructional objectives prior to the clinical experience.			
	19-4. Reviewing elements in the evaluation process.			
	19-5. Defining client-related situations which are likely to cause student stress.			
	19-6. Selecting criteria to judge the extent to which the difficulties posed by the patient should affect the student's performance.			
20. To allow students to select learning experiences within appropriate limits by:	20-1. Providing students appropriate practice in using self-evaluation techniques.			
	20-2. Assisting students in developing educational objectives in keeping with their abilities.			
	20-3. Reviewing the legal and agency regulations that limit what a student can choose to do.			
21. To discuss ethical issues of patient care with students by:	21-1. Studying the pros and cons of contemporary ethical issues.			
	21-2. Discussing ethical issues with knowledgeable peers.			

GUIDE TO THE SELECTION OF
INSTRUCTIONAL STRATEGIES BASED UPON CONGRUENCE

DISCIPLINE: NURSING
PRIORITY: II

Table 6 (continued)

1 OBJECTIVES	2 ACTIVITIES	INSTRUCTIONAL STRATEGIES 3 PRIMARY	4 SUPPORTIVE	5 ALTERNATIVE
21. (Continued)	21-3. Practicing techniques of conducting group discussions on controversial issues. 21-4. Identifying sensitive areas when discussing ethical issues which could result in student stress. 21-5. Illustrating for students eliciting sensitive information from patients and families in an unobtrusive way. 21-6. Questioning the impact of own feelings (values) and biases on students' ability to deal with ethical issues.			

APPENDIX G

COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 1.

1. To explain to students what they are expected to learn from the instruction presented by:

1-1. Writing lesson plans and distributing to students.

1-2. Developing course outline and distributing to students.

1-3. Writing examination items before course begins.

1-4. Preparing and distributing course review questions each week.

1-5. Asking students to summarize or restate what instructor expects them to learn.

1-6. Giving pretest covering material to be learned.

1-7. Writing, developing and using learning objectives.

1-8. Rehearsing telling students what they are expected to learn (e.g., role play).

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s	s					
	Development Time (Weeks)	L	M	M					
	Cost for Development	L	M	L					
	Time Utilized (Hours)	M	M	L					
	Post Test Performance (Success) %	H	H	M					
	Units of Equipment	L	M	L					
	Evaluation Potential *	b	c	b					

KEY:

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY I

OBJECTIVE # 2.

2. To review and criticize the presentation or a guest lecturer by:

2-1. Developing notes on what a lecturer says.

2-2. Establishing criteria for the critique of guest presentations.

2-3. Instructing students in observation training.

2-4. Developing observation skills via use of multimedia.

2-5. Developing feedback and summary skills - criteria and practice.

2-6. Developing assertive training skills - risk taking skills

2-7. Assessing knowledge gain of students.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p					
	Development Time (Weeks)		M	M					
	Cost for Development		M	M					
	Time Utilized (Hours)		M	M					
	Post Test Performance (Success) %		H	M					
	Units of Equipment		M	M					
	Evaluation Potential *		c	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 3.

3. To instruct how to structure a consultation request to elicit specific information by:

3-1. Organizing a consultation request to elicit specific information.

3-2. Describing criteria for structuring consultation request to elicit specific information.

3-3. Demonstrating or role play structuring of consultation request.

3-4. Describing the structuring of consultation.

3-5. Being able to elicit a structure for a consultation.

3-6. Practicing micro-teaching a real session using all strategies presented.

3-7. Practicing peer teaching with critique.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key			P	S				
	Development Time (Weeks)			L	M				
	Cost for Development			L	L				
	Time Utilized (Hours)			L	M				
	Post Test Performance (Success) %			M	M				
	Units of Equipment			L	L				
	Evaluation Potential *			b	c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY 1 OBJECTIVE # 4.

4. Describe how one might interact with patients of different age, sex, socioeconomic or ethnic backgrounds by:

4-1. Using films or tapes to stimulate discussion.

4-2. Dramatizing or simulating a case presentation.

4-3. Employing role play.

4-4. Practicing micro-teaching in simulated or real sessions.

4-5. Practicing peer teaching critique.

4-6. Designing and employing a colleague critique or assessment of instructor.

4-7. Designing and employing a student critique of instructor.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	L	M				
	Cost for Development		M	L	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	M	H				
	Units of Equipment		M	M	M				
	Evaluation Potential *		b	b	a				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY I

OBJECTIVE # 5 .

5. To instruct students on how to select and utilize consultants effectively by:

5-1. Dramatizing or employing a colleague critique or assessment of instructor.

5-2. Dramatizing or employing a student critique of instructor.

5-3. Defining problems for which answers are needed - identifying those which can be addressed by a consultant.

5-4. Specifying ways in which consultants can be used.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	s	p					
	Development Time (Weeks)	L	M	L					
	Cost for Development	L	M	L					
	Time Utilized (Hours)	L	M	L					
	Post Test Performance (Success) %	M	H	M					
	Units of Equipment	L	M	L					
	Evaluation Potential *	a	b	a					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 6.

6. To present material in a clear, logical, and organized manner by:

6-1. Describing criteria essential for effective presentations.

6-2. Constructing and employing a lesson plan.

6-3. Assembling instructor information on delivery styles.

6-4. Describing instructor information through lecture, self-instruction, etc.

6-5. Demonstrating contrasting teaching styles (e.g., organized vs. disorganized).

6-6. Conducting peer critique of lesson plan and presentation.

6-7. Conducting a student critique of lesson plan and presentation.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	p	s					
	Development Time (Weeks)	L	M	M					
	Cost for Development	L	H	M					
	Time Utilized (Hours)	L	M	M					
	Post Test Performance (Success) %	L	M	M					
	Units of Equipment	L	M	M					
	Evaluation Potential *	a	c	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 7.

7. To calmly organize and control a chaotic clinical situation by:

7-1. Developing and explaining critieria or guideline for what to do and what not to do in a hypothetical situation.

7-2. Employing simulation with faculty and students.

7-3. Practicing skills in E.R. with peer review.

7-4. Engaging in the recognition of own style.

7-5. Writing critical incidents of previous emergency situations.

7-6. Examining and discussing trigger films.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
	Strategy Key		s	p					
CRITERIA	Development Time (Weeks)		M	L					
	Cost for Development		M	M					
	Time Utilized (Hours)		M	L					
	Post Test Performance (Success) %		M	M					
	Units of Equipment		M	M					
	Evaluation Potential *		c	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 8 .

8. To inform students of evaluation criteria for measuring performance by:

8-1. Experiencing a learning situation where criteria for evaluation were not provided.

8-2. Utilizing a critical incident technique to judge the efficacy of evaluation criteria.

8-3. Describing reasons or rationale for providing criteria to students.

8-4. Examining and discussing a videotape interview of students' response to situations where no criteria is presented.

	INSTRUCTIONAL STRATEGIES							
CRITERIA	L	C	D	PE	PI	SA	T	COM
Strategy Key	s	p						
Development Time (Weeks)	L	M						
Cost for Development	L	M						
Time Utilized (Hours)	L	M						
Post Test Performance (Success) %	M	H						
Units of Equipment	L	M						
Evaluation Potential *	b	c						

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 9 .

9. To encourage and provide student opportunities to teach by:

9-1. Asking students to demonstrate different instructional modes and techniques.

9-2. Requiring students to present case presentations.

9-3. Having students instruct other students.

9-4. Discussing the advantages of student teaching activity.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		M	L	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	L	M				
	Units of Equipment		M	L	L				
	Evaluation Potential *		c	b	a				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY I

OBJECTIVE # 10.

10. To ask students for data and/or literature references to support opinions conclusions by:

10-1. Determining where support for conclusion would not facilitate learning or produce most relevant learning.

10-2. Developing and discussing criteria or guidelines for how to ask students to perform the task.

10-3. Role playing or simulating how to gather data.

10-4. Recognizing one's own style in gathering data.

10-5. Providing instructor with rationale for this objective.

10-6. Illustrating the importance of data gathering.

10-7. Demonstrating the uses of gathered data.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s			s		
	Development Time (Weeks)		M	L			L		
	Cost for Development		L	L			L		
	Time Utilized (Hours)		L	L			M		
	Post Test Performance (Success) %		M	L			M		
	Units of Equipment		L	L			L		
	Evaluation Potential *		c	a			c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE   PRIORITY I   OBJECTIVE # 11.

11. To prepare for class and student sessions by:

11-1. Identifying student needs in clinical setting.

11-2. Preparing objectives and lesson plan.

11-3. Developing and distributing session outline.

11-4. Discussing strategies for identification of student needs or weaknesses.

11-5. Demonstrating differing techniques or strategies for identifying student needs (chart audit).

11-6. Practicing differing strategies for identifying student needs (chart audit, questions, student observation, rs residents, etc.).

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p	p					
	Development Time (Weeks)	L	M	M					
	Cost for Development	L	M	M					
	Time Utilized (Hours)	L	H	M					
	Post Test Performance (Success) %	M	H	L					
	Units of Equipment	L	L	L					
	Evaluation Potential *	a	c	a					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 12.

12. To provide meaningful and accurate estimates of student performance for evaluation, promotion and/or review committees on a regular basis by:

12-1. Developing criteria for estimates.

12-2. Developing method of conveying information.

12-3. Listing the aims and purposes of student evaluation.

12-4. Recording performance - evaluation data.

12-5. Participating in rater training activities.

12-6. Discussing need for and use of performance data for students, faculty, and administrators.

12-7. Discussing the consequences of not maintaining accurate student performance estimates.

12-8. Listing the criteria for promotion.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p			s			
	Development Time (Weeks)		M			M			
	Cost for Development		L			M			
	Time Utilized (Hours)		M			L			
	Post Test Performance (Success) %		M			M			
	Units of Equipment		L			L			
	Evaluation Potential *		c			b			

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 13.

13. To recognize students' educational problems by:

13-1. Knowing when and how to refer students with educational problems.

13-2. Demonstrating knowledge and understanding of kinds of problems which exist in educational programs.

13-3. Recognizing data to be gathered to diagnose educational problems.

13-4. Being able to recognize typical and specific educational problems.

13-5. Diagnosing how to identify educational problems in specific students.

13-6. Developing awareness of and giving information about typical and significant educational problems (e.g., reading skills, study skills, problem solving skills), through lecture, case presentation.

	INSTRUCTIONAL STRATEGIES							
CRITERIA	L	C	D	PE	PI	SA	T	COM
Strategy Key	s	p	s		s			
Development Time (Weeks)	L	M	M		M			
Cost for Development	L	M	L		M			
Time Utilized (Hours)	L	M	M		L			
Post Test Performance (Success) %	M	M	M		M			
Units of Equipment	L	L	L		L			
Evaluation Potential *	a	c	a		b			

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY I

OBJECTIVE # 14.

14. To provide frequent feedback on student performance by:

14-1. Recognizing the importance of providing learning feedback.

14-2. Demonstrating giving student feedback.

14-3. Distinguishing purposes of different types of feedback.

14-4. Discussing implications of delayed feedback on student learning and administrative discussions.

14-5. Utilizing resources available to provide feedback.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	L	M				
	Cost for Development		L	L	L				
	Time Utilized (Hours)		L	L	M				
	Post Test Performance (Success) %		M	M	H				
	Units of Equipment		L	L	L				
	Evaluation Potential *		c	b	c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 15.

15. To correct mistakes in a positive and constructive way by:

15-1. (Same as activities for #14

15-2. Discussing sample cases of different problems in correcting mistakes.

15-3. Analyzing trigger films on providing constructive reinforcement.

15-4. Suggesting improvements and prospective evaluation.

15-5. Identifying and explaining inappropriate ways of correcting mistakes.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		M	L	L				
	Time Utilized (Hours)		M	M	M				
	Post Test Performance (Success) %		M	L	M				
	Units of Equipment		M	M	L				
	Evaluation Potential *		b	a	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 16 .

16. To outline component parts of a complex topic or procedure by:

16-1. Analyzing complicated topics.

16-2. Utilizing non technical language to structure into component parts.

16-3. Practicing, explaining or discussing medical topics with non-physicians.

16-4. Outlining topics prior to presentations.

16-5. Selecting a concrete example of a breakdown of topic.

16-6. Demonstrating adequate and inadequate breakdown of complex topics.

16-7. Learning to explain a topic without repeating any of the same nouns or key words.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	s	p					
	Development Time (Weeks)	M	M	M					
	Cost for Development	L	L	L					
	Time Utilized (Hours)	M	M	M					
	Post Test Performance (Success) %	L	M	L					
	Units of Equipment	L	L	L					
	Evaluation Potential *	a	b	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE: MEDICINE. PRIORITY I OBJECTIVE # 17.

17. To ask students about difficulties on service by:

17-1. Developing format for questioning.

17-2. Describing students most common problems in clinical learning.

17-3. Setting up periodic meetings with students.

17-4. Training in listening skills and in non defensive probing of student.

17-5. Simulating relationships through game or role playing.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		M	M	L				
	Cost for Development		L	L	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	M	M				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	b	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 18.

18. To provide consistency in the critique of student performance by:

18-1. Providing observer training.

18-2. Critiquing videotape playbacks.

18-3. Leading faculty discussions on expected performance criteria.

18-4. Reconciling differences in evaluation ratings.

18-5. Discussing opportunities to participate in observer training activities.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key			p	s				
	Development Time (Weeks)			L	M				
	Cost for Development			L	L				
	Time Utilized (Hours)			L	M				
	Post Test Performance (Success) %			L	M				
	Units of Equipment			L	L				
	Evaluation Potential *			a	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 19.

19. To provide time for discussion with individual students by:

19-1. Demonstrating skills of time management and schedule periodic conferences with individual students.

19-2. Describing purposes of individual conferences for both student and teacher.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p					
	Development Time (Weeks)		L	L					
	Cost for Development		L	L					
	Time Utilized (Hours)		L	L					
	Post Test Performance (Success) %		M	M					
	Units of Equipment		L	L					
	Evaluation Potential *		b	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 20.

20. To convey a willingness to learn from students by:

20-1. Demonstrating improvement in listening skills.

20-2. Developing sensitivity toward learning by being aware of personal/professional concerns of students.

20-3. Describing benefits to be gained from student learning.

20-4. Employing attitudes which elicit student response/reaction.

20-5. Recognizing and expressing qualities of openness, warmth, etc.

20-6. Describing what is meant by interpersonal process recall.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		M	L	L				
	Cost for Development		M	M	M				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	L	M				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	a	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY I OBJECTIVE # 21.

21. To convey respect for other specialties, disciplines, and professions by:

21-1. Demonstrating a knowledge of methods which can be employed to gather data (critical incident, nominal group, etc.).

21-2. Simulating disparaging remarks in terms of their own field and profession.

21-3. Discussing problems of stereotyping.

21-4. Demonstrating positive role modeling techniques.

21-5. Leading discussions on the topic.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p					
	Development Time (Weeks)		M	L					
	Cost for Development		L	L					
	Time Utilized (Hours)		L	L					
	Post Test Performance (Success) %		M	M					
	Units of Equipment		L	L					
	Evaluation Potential *		b	a					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY II

OBJECTIVE # 1.

1. To summarize major points at appropriate times during instruction by:

1-1. Developing criteria for summarizing instruction.

1-2. Identifying major issues and difficult concepts before instructional session.

1-3. Asking students to summarize.

1-4. Developing repertoire of ways to summarize.

1-5. Attention to timing of summarization beginning, after each point, and at end.

1-6. Relating each major point to preceding major points.

1-7. Developing a summary strategy which includes the presentation of information, use of examples, and practice in observation, and discussion summary.

1-8. Summarizing major points at appropriate times during instruction.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s	s					
	Development Time (Weeks)	L	M	M					
	Cost for Development	L	M	L					
	Time Utilized (Hours)	L	M	L					
	Post Test Performance (Success) %	M	M	M					
	Units of Equipment	L	L	L					
	Evaluation Potential *	b	c	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY II

OBJECTIVE # 2.

2. To outline problem-solving approaches to the case by:

2-1. Designing a handout covering accepted approaches to problem solving.

2-2. Explaining alternate ways to solve case and have student decide best.

2-3. Discussing outcome, pros and cons of various approaches to case solution.

2-4. Having each student develop a different primary diagnosis and explain indication and outcome.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s	s					
	Development Time (Weeks)	M	H	M					
	Cost for Development	L	M	M					
	Time Utilized (Hours)	L	M	M					
	*Post Test Performance (Success) %	L	M	M					
	Units of Equipment	L	L	L					
	Evaluation Potential *	b	c	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE **PRIORITY** II **OBJECTIVE #** 3 .

3. To check selected elements of student work-up by interviewing or examining patient in presence of students by:

3-1 Identifying key elements of such an interaction. Ask students to demonstrate and document elements.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		L	L	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	M	M				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	b	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 4.

4. To demonstrate specific clinical techniques by:

4-1. Identifying critical elements of techniques.

4-2. Alerting student to critical element and to difficulties to be encountered. Apprise of advantages and disadvantages of alternative techniques.

4-3. Identifying and apprise students of cues at each step, re: whether done correctly.

4-4. Making sure student can see demonstration.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s		p					
	Development Time (Weeks)	L		M					
	Cost for Development	L		L					
	Time Utilized (Hours)	L		M					
	Post Test Performance (Success) %	L		M					
	Units of Equipment	L		M					
	Evaluation Potential *	a		b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY II

OBJECTIVE # 5.

5. To relate educational reading material to a current patient by:

5-1. Asking student to look up and report topic(s) relevant to patient.

5-2. Describing the patient in relation to current research.

5-3. Relating specific element of work-up to current literature.

5-4. Preparing bibliography(ies) of relevant topic.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s				s	
	Development Time (Weeks)		M	L				L	
	Cost for Development		M	L				L	
	Time Utilized (Hours)		M	L				L	
	Post Test Performance (Success) %		M	M				L	
	Units of Equipment		L	L				L	
	Evaluation Potential *		b	a				a	

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY II

OBJECTIVE # 6.

6. To describe how to perform a high quality clinical exam as related to a specific case by:

6-1. Determining what's important to note in particular case.

6-2. Presenting several ways to check similar findings.

6-3. Suggesting relevant shortcuts in the case.

6-4. Distinguishing between objective and subjective signs.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	s	p					
	Development Time (Weeks)	M	M	M					
	Cost for Development	L	L	L					
	Time Utilized (Hours)	L	M	L					
	Post Test Performance (Success) %	L	M	M					
	Units of Equipment	L	L	L					
	Evaluation Potential *	b	b	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 7.

7. To stimulate student interest in a specific patient during case presentation by:

7-1. Calling the student by his/her name.

7-2. Pointing out interesting or challenging aspects of the case.

7-3. Identifying or asking the student(s) to describe unique elements of case or prognosis.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s					
	Development Time (Weeks)		M	M					
	Cost for Development		L	L					
	Time Utilized (Hours)		M	L					
	Post Test Performance (Success) %		M	L					
	Units of Equipment		L	L					
	Evaluation Potential *		b	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 8 .

8. To inform student(s) of evaluation criteria for measuring his/her performance by:

8-1. Describing student course objectives.

8-2. Telling how attainment of objectives will be measured.

8-3. Preparing and distribute a course syllabus.

CRITERIA	INSTRUCTIONAL STRATEGIES L	C	D	PE	PI	SA	T	COM
Strategy Key	s	p						
Development Time (Weeks)	L	M						
Cost for Development	L	M						
Time Utilized (Hours)	L	L						
Post Test Performance (Success) %	L	M						
Units of Equipment	L	L						
Evaluation Potential *	b	c						

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 9 .

9. To explain incorrect responses to questions by:

9-1. See #15 (Priority I Item)

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
	Strategy Key	s	p						s
CRITERIA	Development Time (Weeks)	L	M						H
	Cost for Development	L	M						H
	Time Utilized (Hours)	L	M						H
	Post Test Performance (Success) %	L	M						M
	Units of Equipment	L	L						L
	Evaluation Potential *	b	c						c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 10.

10. To ask for a "problem listing" on the patient by:

10-1. Learning Problem Oriented Record.

10-2. Practicing Problem Oriented Record.

10-3. Developing questioning skills.

10-4. Asking for priority of problem.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	p		s				
	Development Time (Weeks)	L	M		M				
	Cost for Development	L	M		M				
	Time Utilized (Hours)	L	M		M				
	Post Test Performance (Success) %	L	H		M				
	Units of Equipment	L	L		L				
	Evaluation Potential *	b	c		b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 11 .

11. To ask student to differentiate between essential and non-essential data by:

11-1. Learning effective questioning techniques.

11-2. Determining what is essential and non-essential.

11-3. Peer reviewing re: essential data.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		M	M	L				
	Cost for Development		M	M	M				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	L	M				
	Units of Equipment		M	L	L				
	Evaluation Potential *		b	b	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY II

OBJECTIVE # 12.

12. To ask questions which make student use deductive reasoning by:

12-1. Writing illustrating questions which show deductive reasoning.

12-2. Developing criteria for deductive reasoning.

12-3. Practice asking questions.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s	s			
	Development Time (Weeks)		M	M	M	M			
	Cost for Development		M	L	L	M			
	Time Utilized (Hours)		M	L	M	L			
	Post Test Performance (Success) %		M	L	L	M			
	Units of Equipment		L	L	L	L			
	Evaluation Potential *		b	a	a	b			

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY II

OBJECTIVE # 13 .

13. To ask student for successive management steps by:

13-1. Knowing successive steps in logical order.

13-2. Giving hypothetical cases and asking/comparing to peer standard.

13-3. POR format.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s					s
	Development Time (Weeks)		M	M					M
	Cost for Development		M	L					H
	Time Utilized (Hours)		M	M					M
	Post Test Performance (Success) %		M	L					H
	Units of Equipment		L	L					L
	Evaluation Potential *		c	a					b

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 14.

14. To present behavioral, social, family and financial factors in decisions regarding patient management by:

14-1. Refer to #4 (Priority I Item) - also Identifying critical management interviews highly affected by these factors.

14-2. Providing case studies illustrating influence of these variables.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	s	p					
	Development Time (Weeks)	L	M	M					
	Cost for Development	L	M	L					
	Time Utilized (Hours)	L	M	L					
	Post Test Performance (Success) %	M	H	M					
	Units of Equipment	L	L	L					
	Evaluation Potential *	b	b	a					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 15.

15. To point out student's missed observations by:

15-1. Deciding what student should notice.

15-2. Writing observation reports.

Also # 15 (Priority I Item)

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	M	L				
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	Post Test Performance (Success) %		M	M	M				
	Units of Equipment		L	L	L				
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 16

16. To respond enthusiastically to questions by:

16-1. Defining and describing enthusiasm.

16-2. Using questions as an opportunity to make point with student's full attention.

16-3. Practicing enthusiasm.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key			p	s				
	Development Time (Weeks)			M	L				
	Cost for Development			M	L				
	Time Utilized (Hours)			L	M				
	Post Test Performance (Success) %			M	L				
	Units of Equipment			L	L				
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 17.

17. To encourage students while they are performing procedures by:

17-1. Describing using the technique of positive reinforcement.

17-2. Distinguish the important things to reinforce.

17-3. Become knowledgeable of literature on reinforcement psychology.

17-4. Anticipating discouraging events and prepare student in advance.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key			p	s			s	
	Development Time (Weeks)			M	L			L	
	Cost for Development			M	L			L	
	Time Utilized (Hours)			L	M			L	
	Post Test Performance (Success) %			M	M			M	
	Units of Equipment			M	L			L	
	Evaluation Potential *			c	b			a	

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 18.

18. To give positive verbal reinforcement on clinical performance by: 18-1. See #17 (same)

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		H	M	L				
	Cost for Development		M	M	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	M	M				
	Units of Equipment		L	M	L				
	Evaluation Potential *		c	c	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 19.

19. To assess and focus on level of student understanding of topic by:

19-1. Developing questioning skills re: present understanding.

19-2. Developing skills in the design and use of pre-tests.

19-3. Becoming familiar with appropriate language and concepts.

19-4. Encouraging student(s) to interrupt and question at appropriate times.

19-5. Sensitizing student(s) to periodically summarize.

19-6. Examining student(s) for feedback at appropriate content levels.

19-7. Demonstrating skill in addressing topic misunderstanding.

19-8. Demonstrating skill in the use of higher order questions.

19-9. Demonstrating skill in developing and using clinical evaluation.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		H	M	M				
	Cost for Development		M	M	L				
	Time Utilized (Hours)		M	L	M				
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 20.

20. To ask students for feedback and suggestions for improving learning experience on the service by:

20-1. Developing alternate strategies for gathering feedback data.

20-2. Developing alternate strategies for evaluating feedback data.

Also - See # 17 (Priority I Item)

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p						s
	Development Time (Weeks)		M						M
	Cost for Development		M						M
	Time Utilized (Hours)		M						M
	Post Test Performance (Success) %		M						M
	Units of Equipment		M						M
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 21.

21. To convey a tolerance for uncertainty in medical problems by:

21-1. Practicing and assess role modeling strategies.

21-2. Illustrating and discussing examples of humble, tolerating and arrogant intolerance.

21-3. Developing skill in the use of trigger films to induce in faculty a sense of helplessness to discuss specific ways of handling uncertainty.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		M	L	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		H	M	M				
	Units of Equipment		M	L	L				
	Evaluation Potential *		c	b	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 22.

22. To demonstrate an interest in the students' efforts to learn by:

22-1. Recognizing and retaining learners' first names.

22-2. Demonstrating techniques for establishing rapport.

22-3. Skillfully questioning current learning.

22-4. Providing appropriate assistance when problems in learning are identified.

22-5. Identifying student learning style.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	p	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		M	L	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	M	H				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	b	b				

KEY:

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 23.

23. To admit limits of own medical knowledge and experience by:

23-1. Delineating areas of strength and weakness.

23-2. Discussing how it feels to admit ignorance.

23-3. Practicing in a role playing situation - "I don't know".

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s					
	Development Time (Weeks)		M	M					
	Cost for Development		M	L					
	Time Utilized (Hours)		M	L					
	Post Test Performance (Success) %		M	M					
	Units of Equipment		L	L					
	Evaluation Potential *		b	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 24.

24. To emphasize promptness for teaching sessions by:

24-1. Role playing the experience of lateness.

24-2. Developing techniques to insure that tardiness is not ignored.

24-3. Formulating a plan for recognizing and dealing with tardiness.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		L	L	L				
	Cost for Development		L	L	L				
	Time Utilized (Hours)		L	L	M				
	Post Test Performance (Success) %		M	M	M				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	b	c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 25 .

25. To provide for student participation in the instructional process by:

25-1. Discussing alternative mechanisms for student participation.

25-2. Practicing technique for employing and assessing methods for student participation.

25-3. Having students design and present case examples of problems.

25-4. Designing reading assignments for session presentation.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		M	L	L				
	Time Utilized (Hours)		M	L	M				
	Post Test Performance (Success) %		M	L	M				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	a	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 26 .

26. To convey and demonstrate leadership skill as a professional attribute by:

26-1. Behaviorally define leadership.

26-2. Assessing game-playing situations dealing with problems in professional management.

26-3. Identifying one's own style of leadership.

26-4. Identifying and giving example of characteristics of professional style and behavior.

CRITERIA	INSTRUCTIONAL STRATEGIES L	C	D	PE	PI	SA	T	COM
Strategy Key		s	p					
Development Time (Weeks)		M	M					
Cost for Development		M	M					
Time Utilized (Hours)		M	L					
Post Test Performance (Success) %		M	M					
Units of Equipment		L	L					
Evaluation Potential *		b	b					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE PRIORITY II OBJECTIVE # 27 .

27. To demonstrate critical appraisal of lab data, and consultant recommendations by:

27-1. Developing and communicating criteria for appraisal.

27-2. Relating data to problem list.

27-3. Providing opportunities for students to demonstrate skill in appraisal techniques.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		M	M	L				
	Time Utilized (Hours)		H	M	M				
	Post Test Performance (Success) %		H	M	M				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	b	a				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE MEDICINE

PRIORITY II

OBJECTIVE #28.

28. To encourage students to evaluate critically lab data, consultant recommendations, etc. by:

- Same as # 27- also

28-1. Assessing whether consultant or lab answered question asked.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	p	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		M	M	L				
	Time Utilized (Hours)		H	M	M				
	Post Test Performance (Success) %		H	M	M				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	b	a				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 1 .

To explain to students what they are expected to learn from the instruction presented by:

1-1. Being able to state objectives according to a prescribed way.

1-2. Practicing statement of objectives to students.

1-3. Identifying and writing the sequential steps of the clinical task.

1-4. Evaluating the clinical task in a positive way.

1-5. Observing oneself on videotape when explaining expectations.

1-6. Recording your expectations on an audiotape for review and critique with a colleague.

1-7. Pointing out the importance and relevancy of the instructions being undertaken.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
	Strategy Key	p	s		s				
C	Development Time (Weeks)	L	M		M				
R									
I	Cost for Development	L	L		L				
T	Time Utilized (Hours)	L	L		M				
E									
R	Post Test Performance (Success) %	H	M		H				
I									
A	Units of Equipment	L	L		M				
	Evaluation Potential *	b	c		c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY **PRIORITY** I **OBJECTIVE #** 2.

2. To use audiovisual aids or 2 or 3 dimensional aids (when appropriate) in describing techniques or concepts that are different by:

2-1. Being able to prepare visual aids.

2-2. Identifying situations or conditions in which the use of A.V. aids would be beneficial to instruction.

2-3. Being able to state and use criteria and standards for evaluating A.V. methods in order to select the most appropriate method.

2-5. Being able to state and use, criteria and standards for evaluating the quality of A.V.'s.

2-6. Listing current sources which lend, distribute, give or produce A.V. resources.

2-7. Being able to recognize, evaluate, and state the benefits or (liabilities) of various A.V.'s to the student.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s	p					
	Development Time (Weeks)	M	M	M					
	Cost for Development	M	M	M					
	Time Utilized (Hours)	M	M	M					
	Post Test Performance (Success) %	L	M	L					
	Units of Equipment	M	M	M					
	Evaluation Potential *	a	b	c					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY

PRIORITY I

OBJECTIVE # 3.

3. To summarize the tasks that are necessary in order to accomplish the objective(s) by:

3-1. Being able to identify the specific steps needed to accomplish the objective.

3-2. Being able to identify the appropriate time when summarization is needed.

3-3. Being able to identify the main points of the summary succinctly.

3-4. Asking the student to comment on the major points made in the summary.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s				s		
	Development Time (Weeks)	L	L				L		
	Cost for Development	L	L				L		
	Time Utilized (Hours)	L	L				L		
	Post Test Performance (Success) %	M	M				M		
	Units of Equipment	L	L				L		
	Evaluation Potential *	b	b				a		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY

PRIORITY I

OBJECTIVE # 4 .

4. To establish a time frame necessary for students to accomplish the objective(s) by:

4-1. Knowing how long a procedure (task) will take for an average student by assessing a random number of students/procedure.

4-2. Identifying time wasters in completing (X) procedure(s).

4-3. Pointing out to students where he/she is wasting time.

4-4. Being able to give suggestions as to how to use time more effectively.

4-5. Being able to identify potential complications in completing the procedure(s).

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s				
	Development Time (Weeks)		L	M	M				
	Cost for Development		L	L	L				
	Time Utilized (Hours)		L	M	M				
	Post Test Performance (Success) %		M	H	H				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	c	c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 5.

5. To demonstrate skill or explaining estimates of expenses to patients by:

5-1. Being able to define alternative treatment protocols.

5-2. Being able to cost account alternative plan.

5-3. Being able to state advantages and disadvantages of the treatment(s) alternatives which are recommended.

5-4. Being a role model in providing expense estimates to patients for the student.

5-5. Critiquing various approaches to estimate/explain expenses to patients.

5-6. Being able to communicate about fees to patients.

5-7. Interacting with patients to discuss his/her financial situation.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s	p	s				
	Development Time (Weeks)	L	L	L	M				
	Cost for Development	L	L	L	L				
	Time Utilized (Hours)	L	L	L	M				
	Post Test Performance (Success) %	L	M	M	M				
	Units of Equipment	L	L	L	L				
	Evaluation Potential *	b	b	c	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 6.

6. To exhibit one's ability to follow-up students by:

6-1. Keeping active records on students' progress.

6-2. Selecting a follow-up procedure to include a time table.

6-3. Knowing when to follow-up students.

6-4. Checking periodically on student during his/her clinical treatment.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p		s				
	Development Time (Weeks)		L		M				
	Cost for Development		L		L				
	Time Utilized (Hours)		M		M				
	Post Test Performance (Success) %		M		M				
	Units of Equipment		L		L				
	Evaluation Potential *		c		b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 7 .

7. To demonstrate the use of a planned variety of instructional activity (e.g., questioning, demonstration, etc.) by:

7-1. Being aware of alternative teaching techniques.

7-2. Understanding impact of alternative teaching techniques.

7-3. Videotaping oneself using alternative teaching techniques.

7-4. Being aware of the appropriateness of the various teaching techniques by developing criteria.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s						s
	Development Time (Weeks)	M	M						H
	Cost for Development	L	L						M
	Time Utilized (Hours)	L	L						H
	Post Test Performance (Success) %	M	M						H
	Units of Equipment	L	M						H
	Evaluation Potential *	b	c						c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 8.

8. To identify a student's strengths/weaknesses in his current skill level by:

8-1. Identifying various types of students strengths and weaknesses.

8-2. Identifying situations that impact on the student.

8-3. Describing and demonstrating the skill level expected of the student.

8-4. Specifying the students' perception of his/her skills.

8-5. Identifying methods to evaluate students' strengths and weaknesses. (ability to use task analysis procedures).

8-6. Being able to categorize students' strengths and weaknesses.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s						s
	Development Time (Weeks)	M	M						H
	Cost for Development	L	M						M
	Time Utilized (Hours)	M	H						H
	Post Test Performance (Success) %	M	M						H
	Units of Equipment	L	L						L
	Evaluation Potential *	b	c						c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY

PRIORITY I

OBJECTIVE # 9.

To ask students for positive or negative comments on suggested techniques (procedures) by:

To ask students to comment on specific procedures during treatment by:

To ask student to participate in his learning by discussing, i.e., procedures, etc. by:

To ask student to define questions which need to be asked to acceptably resolve a patient's treatment or management problems by:

To ask students to identify strengths and weaknesses in their own performance by:

9-1. Being able to demonstrate questioning skills.

9-2. Having students practice questioning skills by videotape.

9-3. Being able to interpret feedback from students' by restating the information.

9-4. Being able to develop a logical sequence of questioning by active listening.

9-5. Being able to demonstrate management skills.

CRITERIA	INSTRUCTIONAL STRATEGIES							
	L	C	D	PE	PI	SA	T	COM
Strategy Key			p	p				s
Development Time (Weeks)			H	M				H
Cost for Development			M	M				M
Time Utilized (Hours)			H	M				H
Post Test Performance (Success) %			M	M				M
Units of Equipment			M	M				M
Evaluation Potential *			b	b				c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 10

10. To describe requisite behavior prior to a student beginning a procedure by:

10-1. Being able to demonstrate what the expected behavior is to student(s).

10-2. Having available positive models on videotape.

10-3. Providing the student(s) with a task analysis.

10-4. Providing the student(s) with a specific pre-procedure protocol in writing.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	s	p					
	Development Time (Weeks)	L	M	M					
	Cost for Development	L	M	M					
	Time Utilized (Hours)	M	M	M					
	Post Test Performance (Success) %	L	M	H					
	Units of Equipment	M	M	M					
	Evaluation Potential *	a	b	c					

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 11.

11. To provide students with a systematic evaluation of their progress by:

11-1. Knowing how to set-up an evaluation system.

11-2. Setting up evaluation mechanisms within the system.

11-3. Using task analysis approach in checking off specific procedure(s) in accounting for student progress.

11-4. Being able to give students feedback on their progress.

11-5. Evaluating the evaluation system.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s		s				
	Development Time (Weeks)	L	L		L				
	Cost for Development	L	L		L				
	Time Utilized (Hours)	M	M		M				
	Post Test Performance (Success) %	M	M		M				
	Units of Equipment	L	M		L				
	Evaluation Potential *	a	b		b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 12.

12. To summarize important points by: 12 Refer to A-3

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	P	s						
	Development Time (Weeks)								
	Cost for Development								
	Time Utilized (Hours)								
	Post Test Performance (Success) %								
	Units of Equipment								
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 13.

13. To plan for discussion time during instruction by:

13-1. Being able to schedule time for discussion.

13-2. Arranging for small group seminars.

13-3. Estimating time need for students regarding discussion.

13-4. Illustrating the importance of discussion needs.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	p						
	Development Time (Weeks)	L	M						
	Cost for Development	L	L						
	Time Utilized (Hours)	L	L						
	Post Test Performance (Success) %	M	M						
	Units of Equipment	L	L						
	Evaluation Potential *	b	c						

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY I OBJECTIVE # 14

14. To demonstrate ones perceptiveness to students' problems by:

14-1. Being able to engage in active listening skills.

14-2. Being able to relate information to students at a level he/she understands.

14-3. Being able to select appropriate time in responding to students needs or problems.

14-4. Being familiar with the requirements, situations and demands being placed upon the students in total.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p	s	s				
	Development Time (Weeks)	L	M	M	M				
	Cost for Development	L	L	L	M				
	Time Utilized (Hours)	M	H	M	M				
	Post Test Performance (Success) %	L	M	M	M				
	Units of Equipment	L	L	L	M				
	Evaluation Potential *	a	b	b	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY

PRIORITY II

OBJECTIVE # 1.

1. To demonstrate the proper use of instruments and equipment by:

1-1. Knowing how to use charts, video-tapes, other audio-visuals in demonstrating the use of instruments and equipment.

1-2. Knowing how to use equipment and practice using it before demonstrating its use to the class.

1-3. Knowing common errors in using the equipment.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	s				
	Development Time (Weeks)		M	M	M				
	Cost for Development		L	M	M				
	Time Utilized (Hours)		M	M	L				
	Post Test Performance (Success) %		M	H	M				
	Units of Equipment		L	M	M				
	Evaluation Potential *		b	c	b				

KEY:

p = primary
s = secondary

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a = limited process and product feedback
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 2

2. To clarify patient management problems by:

2-1. Identifying patient management problems.

2-2. Listing common management problems.

2-3. Comparing common management problems.

2-4. Evaluating patient management responses.

2-5. Designing positive solutions to management problems.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s						
	Development Time (Weeks)	M	M						
	Cost for Development	L	L						
	Time Utilized (Hours)	M	M						
	Post Test Performance (Success) %	M	M						
	Units of Equipment	L	L						
	Evaluation Potential *	c	b						

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 3.

3. To explain the rationale for a particular treatment modality by:

3-1. Knowing how to diagnose differentially.

3-2. Designing alternative treatment plans.

3-3. Contrasting alternative treatment plans.

3-4. Selecting a single treatment modality.

3-5. Organizing case information and rationale.

3-6. Writing alternatives for treatment, their rationale (pro and con) and discuss your results with a peer.

3-7. Being able to speak in front of a group of students.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	P							S
	Development Time (Weeks)	H							H
	Cost for Development	M							H
	Time Utilized (Hours)	H							H
	Post Test Performance (Success) %	M							H
	Units of Equipment	L							L
	Evaluation Potential *	c							c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 4.

4. To demonstrate clinical procedures at a rate of speed appropriate to the students' needs by:

4-1. Being aware of student progress.

4-2. Observing student's ability to follow directions.

4-3. Checking student's rate of retention.

4-4. Estimating time demands for completing a(the) clinical procedure.

4-5. Preparing a detailed listing of tasks within the procedures.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	s		s		
	Development Time (Weeks)		M	M	H		L		
	Cost for Development		L	M	M		L		
	Time Utilized (Hours)		M	M	M		M		
	Post Test Performance (Success) %		M	H	M		M		
	Units of Equipment		L	L	L		L		
	Evaluation Potential *		c	c	b		a		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 5.

5. To explain alternate treatment plans to student by:

5-1. Understanding varying communication patterns.

5-2. Being able to write on paper, treatment plans and their rationale, (pro - con). Then discuss or submit that plan to a peer for review and feedback.

5-3. Watching on video a good instructor explain alternative treatment plans to a student.

5-4. Reading a handout explaining what factors enter in when considering alternative treatment, i.e., economic, complexity, age.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p					s		s
	Development Time (Weeks)	M					M		H
	Cost for Development	L					L		M
	Time Utilized (Hours)	M					M		H
	Post Test Performance (Success) %	M					L		H
	Units of Equipment	L					L		M
	Evaluation Potential *	b					b		c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY

PRIORITY II

OBJECTIVE # 6 .

6. To ask student if assistance is needed before beginning the procedure by:

To ask student to describe course of treatment by:

6-1. Being able to ask questions to maximize learning efforts.

6-2. Becoming knowledgeable in practice questioning techniques.

6-3. Becoming knowledgeable in recognizing nonverbal uses that would signal that the student might need some help.

6-4. Knowing and practicing statements and clarification techniques in order to assist the student describe his/her own course of treatment.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p	s	p				
	Development Time (Weeks)		M	M	H				
	Cost for Development		L	L	M				
	Time Utilized (Hours)		M	M	M				
	Post Test Performance (Success) %		H	H	M				
	Units of Equipment		M	M	M				
	Evaluation Potential *		c	b	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 7.

7. To explain patient care decisions to students by:

7-1. Engaging role playing exercises.

7-2. Knowing what level the student is at, so that the explanation will be understood and will further the student's knowledge.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	p	p				s
	Development Time (Weeks)		M	M	M				H
	Cost for Development		M	L	M				H
	Time Utilized (Hours)		L	L	L				M
	Post Test Performance (Success) %		M	M	M				M
	Units of Equipment		L	L	L				M
	Evaluation Potential *		b	c	b				b

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 8

8. To demonstrate ability to actively listen to student by:

To restate, reflect, or clarify student's explanation by:

To demonstrate ability to provide reinforcement when a student responds to a question by:

8-1. Learning the dynamics of active listening.

8-2. Attending workshop on interviewing techniques (including active listening process).

8-3. Producing and participating in trigger tapes that will allow the instructor to practice active listening and receive comments and suggestions upon how to improve from peers or a consultant.

8-4. Role playing with peers.

8-5. Knowing and practicing critical incident techniques especially to identify and practice stating the positive critical behaviors.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	s	p				s
	Development Time (Weeks)		M	M	M				H
	Cost for Development		M	M	L				H
	Time Utilized (Hours)		M	H	M				H
	Post Test Performance (Success) %		M	H	M				M
	Units of Equipment		L	L	L				H
	Evaluation Potential *		b	b	b				c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 9.

9. To consult with students regarding their progress on procedures by:

To demonstrate empathy to students when appropriate by:

9-1. Demonstrating personality characteristics and consulting techniques.

9-2. Analyzing tasks from student perspective of progress.

9-3. Demonstrating how to be a consultant.

9-4. Applying communication skills in an empathetic way.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p				
	Development Time (Weeks)		M		H				
	Cost for Development		L		M				
	Time Utilized (Hours)		M		M				
	Post Test Performance (Success) %		M		M				
	Units of Equipment		M		M				
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 10 .

10. To allow time for student to express differing opinions by:

10-1. Practicing active listening when listening to differing opinions.

10-2. Knowing the value of allowing the students time to express differing opinions.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p				
	Development Time (Weeks)		L		M				
	Cost for Development		L		L				
	Time Utilized (Hours)		M		M				
	Post Test Performance (Success) %		M		M				
	Units of Equipment		L		M				
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 11 .

11. To encourage students to ask questions by:

11-1. Participating in interaction analysis.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p				s
	Development Time (Weeks)		M		M				H
	Cost for Development		M		L				H
	Time Utilized (Hours)		M		M				M
	Post Test Performance (Success) %		M		M				H
	Units of Equipment		M		L				M
	Evaluation Potential *		b		c				c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE DENTISTRY PRIORITY II OBJECTIVE # 12.

12. To explain practical approaches to the management of patient problems in ways that are clearly understood by the student by:

12-1. Knowing and categorizing potential problems.

12-2. Organizing problems in a meaningful way.

12-3. Describing problems to students in a logical way.

12-4. Answering questions about patient problems.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p		s				p
	Development Time (Weeks)		L		M				M
	Cost for Development		L		L				H
	Time Utilized (Hours)		M		M				H
	Post Test Performance (Success) %		M		M				H
	Units of Equipment		L		L				M
	Evaluation Potential *		c		b				c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 1.

To select appropriate teaching aids by:

1-1. Reviewing the inventory of teaching aids already owned by the School of Nursing.
1-2. Reviewing catalogs of teaching aids from other on-campus academic units.
1-3. Identifying through readings, workshops, etc., the instructional advantages and limitations of a variety of teaching aids.
1-4. Reviewing professional journals and advertisements in journal articles for information on new teaching aids.
1-5. Consulting with other colleagues who use teaching aids effectively.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s				s		
	Development Time (Weeks)	M	M				M		
	Cost for Development	L	L				L		
	Time Utilized (Hours)	L	M				M		
	Post Test Performance (Success) %	M	M				H		
	Units of Equipment	L	L				L		
	Evaluation Potential *	a	b				c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 2.

To demonstrate, with student as observer, client teaching and assessment (presenting behaviors and history) by:

2-1. Reviewing (or learning):
  a) steps in assessment
  b) process of assessment
  c) content of assessment
  d) principles of teaching/learning
  e) techniques of patient teaching

2-2. Practicing:
  a) assessment (without students present)
  b) patient teaching without students present

2-3. Critiquing "practice assessments" and "practice teaching" observed/critiqued by experienced colleagues.

2-4. Reviewing (or learning) techniques involved in demonstration-type teaching.

2-5. Videotaping and critiquing your teaching performance.

2-6. Observing assessment skills and client teaching performed by an experienced colleagu

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key			s	s		p		
	Development Time (Weeks)			M	M		M		
	Cost for Development			H	M		M		
	Time Utilized (Hours)			H	H		H		
	Post Test Performance (Success) %			H	H		H		
	Units of Equipment			M	M		M		
	Evaluation Potential *			c	b		b		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 3 .

To involve agency staff in planning learning experiences by:

3-1. Describing organizational structure & communication channels (formal & informal) which function in the agency.

3-2. Describing principles and procedures involved in effective collaboration.

3-3. Preparing written materials which clearly appraise agency staff of the overall goals.

3-4. Soliciting input from staff (formally & informally) re: the effective incorporation of the students into the ongoing operation of the agency.

3-5. Talking with a colleague who has had successful experience with that agency re: the "best ways to operate" within that particular system.

3-6. Consulting with a colleague who has been successful in developing cooperative relationships with agency staff.

3-7. Evaluating how agency staff perceive their role in relation to planning/learning experiences

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	p	s						
	Development Time (Weeks)	L	L						
	Cost for Development	L	L						
	Time Utilized (Hours)	M	M						
	Post Test Performance (Success) %	H	H						
	Units of Equipment	L	L						
	Evaluation Potential *	a	b						

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3-7. (continued) for students.

3-8. Developing systematic way of seeking advice from agency staff in planning learning experiences.

COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 4.

To assist agency staff in evaluating learning experiences by:

4-1. Reviewing the organizational structure and communication channels (formal & informal) existing in the agency.

4-2. Reviewing principles and techniques involved in the development of effective collaborative relationships.

4-3. Consulting with a colleague who has been successful in developing cooperative relationships with agency staff.

4-4. Preparing written materials which clearly appraise agency staff of the criteria for evaluating learning experiences.

4-5. Determining how agency staff perceive their role in relation to evaluation of learning experiences.

4-6. Developing a systematic way of soliciting evaluation data from agency staff.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p				p		
	Development Time (Weeks)	M	M				M		
	Cost for Development	L	L				M		
	Time Utilized (Hours)	L	M				H		
	Post Test Performance (Success) %	M	H				H		
	Units of Equipment	L	L				L		
	Evaluation Potential *	a	c				c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 5.

To question students to determine students' understanding of objectives of the clinical experience by:

5-1. Learning how to write good educational objectives.
5-2. Practicing writing objectives.
5-3. Objectives critiqued by experienced colleague.
5-4. Distributing objectives to students prior to the clinical experience.
5-5. Practicing effective questioning and response techniques.
5-6. Formulating questions to reflect the intellectual operation specified in the objective (i.e. application, analysis, synthesis, etc.)
5-7. Setting aside time for questioning students as part of the clinical experience.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p		s		s		
	Development Time (Weeks)	M	M		M		M		
	Cost for Development	L	L		L		L		
	Time Utilized (Hours)	M	M		H		H		
	Post Test Performance (Success) %	L	M		H		H		
	Units of Equipment	L	L		L		L		
	Evaluation Potential *	a	b		c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 6 .

To question students to assess students' understanding of the planned completed clinical experience in terms of the relationship to the unit being studied by:

6-1. Planning for questioning as an integral part of the clinical experience.
6-2. Reviewing (or learning) effective question-asking and response techniques.
6-3. Incorporating specific clinical experience and objectives into the entire instructional unit of which it is a part.
6-4. Analyzing questions in terms of taxanomic classification of required knowledge.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p		s		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		M		M		
	Post Test Performance (Success) %		M		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 7 .

To assist students in understanding the contributions of other health team members to client care by:

7-1. Talking to other health team members and finding out their professional roles.

7-2. Inviting other health team members to conferences and other learning situations where students are present .

7-3. Asking other health team members to invite students to their conferences whenever feasible.

7-4. Including the roles of other health team members in didactic and clinical presentations to students.

7-5. Teaching students how to consult with other health team members when appropriate.

7-6. Inviting students to attend interdisciplinary workshops and conferences.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p		s				
	Development Time (Weeks)	L	L		L				
	Cost for Development	H	H		H				
	Time Utilized (Hours)	M	M		M				
	Post Test Performance (Success) %	H	H		M				
	Units of Equipment	L	L		L				
	Evaluation Potential *	a	b		b				

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7-7. Encouraging students to assess other HTMS when appropriate in patient care.

COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 8 .

To help students apply research findings by:

8-1. Reviewing the components of the research process.
8-2. Relating research findings to clinical practice.
8-3. Keeping informed about current research relevant to the patient care settings in which students practice.
8-4. Including appropriate research studies in students' reading assignments.
8-5. Involving students in ongoing research conducted in the client care settings where they practice when appropriate.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		s		p		
	Development Time (Weeks)		M		M		M		
	Cost for Development		M		M		M		
	Time Utilized (Hours)		H		H		H		
	Post Test Performance (Success) %		M		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

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COM = Combination

* Evaluation Potential

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 9.

To explain relationships between clinical assignment and educational objectives by:

9-1. Studying the relationship between educational objectives and clinical experience.
9-2. Practicing writing effective educational objectives.
9-3. Reviewing (or learning) principles of making clinical assignments.
9-4. Learning the nature of "nonverbal" responses which students give that can indicate to you whether or not they understood what you explained.
9-5. Videotaping your explanation and having it critiqued by experienced colleague(s).
9-6. Learning how to use educational objectives as the basis for selecting the client care setting.
9-7. Developing specific criteria for choosing a clinical assignement.
9-8. Scheduling specific time to explain relationship between clinical assignment and educational objectives.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	P				s		
	Development Time (Weeks)	M	M				M		
	Cost for Development	L	M				M		
	Time Utilized (Hours)	H	H				H		
	Post Test Performance (Success) %	M	H				H		
	Units of Equipment	L	L				L		
	Evaluation Potential *	a	b				c		

KEY:

p = primary
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 10.

To maintain notes for reporting and discussing student progress after each clinical experience by:

10-1. Identifying, in advance of the experience, incidents that are critical to the students' achievement of clinical objectives.
10-2. Studying techniques of observation.
10-3. Developing a method of concise, accurate recording of student behaviors.
10-4. Scheduling specific time within the clinical experience to observe and record student behaviors.
10-5. Learning how to use positive and negative feedback mechanisms to indicate specific ways in which students can maintain and/or improve their performance.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		M		M		
	Post Test Performance (Success) %		H		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 11

To observe condition of client assigned to each student with an eye to client-related barriers which may inhibit student from meeting delineated instructional objectives by;

11-1. Translating process and content of client assessment into appropriate treatment plan.
11-2. Analyzing outcomes of client assessment in terms of the learning objectives which have been specified for the student.
11-3. Assessing clients assigned to students by interview and examination and by reviewing the clients' records.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		M		M		
	Post Test Performance (Success) %		M		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 12.

To remain objective in student evaluation by:

12-1. Reviewing or learning elements in the evaluation process.
12-2. Establishing, a priori, the specific criteria by which all students will be evaluated.
12-3. Developing a consistent system for data collection.
12-4. Using the same evaluation tool for all students achieving the same objectives.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		P				P		
	Development Time (Weeks)		L				L		
	Cost for Development		L				L		
	Time Utilized (Hours)		L				L		
	Post Test Performance (Success) %		H				H		
	Units of Equipment		L				L		
	Evaluation Potential *		b				c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE #13 .

To remain perceptive to student needs and problems by:
13-1. Reading current literature about student needs and problems.
13-2. Consulting with experienced colleagues about the nature of student needs and problems.
13-3. Listening to students.
13-4. Assessing non-verbal cues from students.
13-5. Avoiding giving inhibitory non-verbal or verbal responses to students.
13-6. Observing interactions among students in clinical settings.
13-7. Anticipating client-related situations which are likely to cause student stress.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		P				p		s
	Development Time (Weeks)		L				L		L
	Cost for Development		L				L		L
	Time Utilized (Hours)		M				M		M
	Post Test Performance (Success) %		M				H		H
	Units of Equipment		L				L		M
	Evaluation Potential *		b				c		c

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 14.

To identify realistic expectations regarding student performance by:

14-1. Familiarizing yourself with the level of performance expected of students prior to the experience currently being evaluated.

14-2. Carrying out the activities/assignments required of students to determine whether expectations are realistic.

14-3. Recording signs of student stress related to excessive requirements.

14-4. Evaluating the actual experience you have assigned the students and determine if it is a reasonable expectation.

14-5. Observing signs of "overload-related" student stress.

14-6. Assessing an "expected progress" rate in order to regularly assess actual student progress as "expected."

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		p		
	Development Time (Weeks)		M		M		M		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		H		H		H		
	Post Test Performance (Success) %		M		M		M		
	Units of Equipment		L		L		L		
	Evaluation Potential *		c		c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing

PRIORITY I

OBJECTIVE # 15.

To organize teaching strategies to achieve specified goals by:

15-1. Reviewing the advantages and limitations of a variety of teaching methods.
15-2. Studying techniques of eliciting student feedback regarding effectiveness of teaching method.
15-3. Using experienced colleagues to critique teaching methods.
15-4. Planning alternative teaching strategies when developing teaching plan.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p				p	s	
	Development Time (Weeks)		L				L	L	
	Cost for Development		L				L	L	
	Time Utilized (Hours)		M				M	M	
	Post Test Performance (Success) %		H				H	H	
	Units of Equipment		L				L	L	
	Evaluation Potential *		c				c	c	

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 16. .

To assist students in seeking client's contribution in developing a health care plan by:

16-1. Reviewing principles of interpersonal communication with clients.
16-2. Planning the clinical experience such that the client contributes to his/her own health care plan.
16-3. Question student about client's role in planning care.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s	s	p				
	Development Time (Weeks)		L	L	L				
	Cost for Development		L	L	L				
	Time Utilized (Hours)		M	M	M				
	Post Test Performance (Success) %		H	H	H				
	Units of Equipment		L	L	L				
	Evaluation Potential *		b	c	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY I OBJECTIVE # 17.

To assist students in understanding issues which affect the profession of nursing by:

17-1. Studying the relevant issues in nursing and their historical precedents.
17-2. Identifying resource materials which can keep you and your students up to date.
17-3. Discussing the issues with knowledgeable persons inside and outside your own school of nursing.
17-4. Identifying resource persons and materials to which students can be referred.
17-5. Discussing professional issues with nursing colleagues and other knowledgeable persons.
17-6. Participating actively in professional organizations.
17-7. Relating professional issues to clinical practices whenever relevant.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p				s		
	Development Time (Weeks)	M	M				L		
	Cost for Development	L	L				L		
	Time Utilized (Hours)	M	M				H		
	Post Test Performance (Success) %	M	H				H		
	Units of Equipment	L	L				L		
	Evaluation Potential *	a	b				c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 1.

To demonstrate, with student as observer, interpersonal relationships with clients by:

1-1. Examining the principles and techniques of effective IPR.
1-2. Observing an experienced colleague interacting with clients.
1-3. Practicing communication skills without students present.
1-4. Carrying out a "practice" demonstration of interpersonal skills observed and critiqued by an experienced colleague.
1-5. Videotaping demonstration of interpersonal skills with follow-up critique by self and/or others.

	INSTRUCTIONAL STRATEGIES							
CRITERIA	L	C	D	PE	PI	SA	T	COM
Strategy Key		s	p	s				
Development Time (Weeks)		L	L	L				
Cost for Development		L	L	L				
Time Utilized (Hours)		H	H	H				
Post Test Performance (Success) %		M	M	H				
Units of Equipment		L	L	L				
Evaluation Potential *		b	b	c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 2 .

Demonstrate, with student as observer, relationships with other health team members by:

2-1. Reviewing (or learning) general principles and techniques of effective IPR.
2-2. Becoming familiar with the roles of other health team members.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		P	P			s		
	Development Time (Weeks)		M	M			M		
	Cost for Development		L	L			L		
	Time Utilized (Hours)		M	M			H		
	Post Test Performance (Success) %		M	H			H		
	Units of Equipment		L	L			L		
	Evaluation Potential *		b	b			c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 3.

To demonstrate effective clinical nursing techniques by:

3-1. Reviewing or learning general principles and techniques of effective clinical nursing techniques.
3-2. Observing experienced colleagues demonstrate clinical nursing techniques.
3-3. Practicing clinical nursing techniques without students present.
3-4. Carrying out "practice" demonstrations of clinical nursing techniques observed and critiqued by an experienced colleague.
3-5. Providing examples to highlight and clarify content.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		P		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		M		M		
	Post Test Performance (Success) %		H		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		b		b		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 4.

To respond succinctly to questions by:

4-1. Giving all students a stopwatch and a gong and establish criteria for when to ring gong.
4-2. Tape recording question and answer session with students to analyze interaction (ala Fleming).
4-3. Videotaping classroom and/or conference period and analyzing answers to questions in terms of clarity and brevity.
4-4. Videotaping for succinctness and distracting mannerisms.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		s		p		
	Development Time (Weeks)		L		L		L		
	Cost for Development		M		M		M		
	Time Utilized (Hours)		M		H		H		
	Post Test Performance (Success) %		M		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 5.

To demonstrate nursing care rather than tell about it by:

5-1. Reviewing or learning general principles and techniques of effective clinical nursing techniques.
5-2. Observing experienced colleagues demonstrate clinical nursing techniques.
5-3. Practicing clinical nursing techniques without students present.
5-4. Carrying out "practice" demonstrations of clinical nursing techniques observed and critiqued by an experienced colleague.

CRITERIA	INSTRUCTIONAL STRATEGIES							
	L	C	D	PE	PI	SA	T	COM
Strategy Key		s	s	p				
Development Time (Weeks)		L	L	L				
Cost for Development		L	L	L				
Time Utilized (Hours)		L	M	M				
Post Test Performance (Success) %		M	H	H				
Units of Equipment		L	L	L				
Evaluation Potential *		b	b	b				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 6.

To select clinical experiences that require students to use decision-making skills by:

6-1. Reviewing or learning principles and processes of decision-making.

6-2. Practicing the level of decision-making required by the clinical experience congruent with the student's ability level

6-3. Identifying the legal limits for decisions made by students and the institution's policy regarding legal responsibility.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		s		p		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		M		M		
	Post Test Performance (Success) %		H		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 7.

To involve agency staff in implementing learning experiences by:

7-1. Assessing the capabilities of individual staff mambers so that skills and student needs can be matched.

7-2. Giving staff members positive reinforcement about their particular areas of competence.

7-3. Studying organizational structure and communication channels (formal & informal) which function in the agency.

7-4. Preparing written materials which clearly appraise agency staff of the overall goals and objectives of students' clinical experience. Learn how to solicit input from staff (formally & informally) re: the effective incorporation of the staff into the agency operation.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		P				S		
	Development Time (Weeks)		L				L		
	Cost for Development		L				L		
	Time Utilized (Hours)		H				H		
	Post Test Performance (Success) %		H				H		
	Units of Equipment		L				L		
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 8.

To provide examples to highlight and clarify content by:

8-1. Discussing content thoroughly with students.
8-2. Developing a lesson plan that includes anecdotes of actual personal experiences that illustrate content.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p				s	s	
	Development Time (Weeks)		L				L	L	
	Cost for Development		L				L	L	
	Time Utilized (Hours)		L				M	M	
	Post Test Performance (Success) %		H				M	H	
	Units of Equipment		L				L	L	
	Evaluation Potential *		b				b	c	

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 9.

To question students to assess students' ability to identify various client manifestations as examples of particular physiological or psychological conditions about which the student should know by:

9-1. Practicing writing objectives and have them reviewed by experienced colleagues.
9-2. Identifying learning objectives.
9-3. Developing questioning and response techniques.
9-4. Identifying discrepancies between the textbook and the real-life situation.
9-5. Distributing objectives to students prior to the clinical experience.
9-6. Scheduling time for questioning students as part of the clinical experience.
9-7. Assigning clients to students according to the educational objectives.
9-8. Assessing the physiological psychological condition of the client and compare with textbook p

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		s		
	Development Time (Weeks)		M		M		M		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		H		H		
	Post Test Performance (Success) %		H		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		c		c		b		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 10 .

To question students to determine students' knowledge regarding the acceptable limits of "normalcy" in client condition by:

10-1. Practicing writing objectives and have them reviewed by experienced colleagues.
10-2. Identifying learning objectives.
10-3. Developing questioning and response techniques.
10-4. Identifying discrepancies between the textbook and the real-life situation.
10-5. Distributing objectives to students prior to the clinical experience.
10-6. Scheduling time for questioning students as part of the clinical experience.
10-7. Assigning clients to students according to the educational objectives.
10-8. Assessing the physiological psychological condition of the client and comparing with textbook picture.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		s		
	Development Time (Weeks)		M		M		M		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		H		H		
	Post Test Performance (Success) %		H		H		M		
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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 11 .

To question students to encourage students to identify and verbalize their own feelings about the patient, his condition, and the care the student gave the client by:

11-1. Planning for questioning as an integral part of the clinical experience.
11-2. Reviewing (or learning) effective question-asking and response techniques.
11-3. Incorporating specific clinical experience and learning objectives into the entire instructional unit of which it is a part.
11-4. Analyzing questions in terms of taxanomic classification of required knowledge.
11-5. Assisting students to verbalize feelings.
11-6. Listening to students and their questions.
11-7. Observing student/student interaction in clinical setting.
11-8. Studying and anticipating client-related situations which are likely to cause students stress.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p		p		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		H		H		
	Post Test Performance (Success) %		H		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

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11-9. Learning how to assess non-verbal cues from students.
11-10. Avoiding inhibitory non-verbal or verbal responses to students.

COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 12 .

To question students to assess their ability to correctly interpret laboratory chart, or equipment data by:

12-1. Practicing effective questioning and response techniques.
12-2. Formulating questions to elicit interpretation of laboratory, chart or equipment data.
12-3. Assessing laboratory, chart or equipment data for clients assigned to students.
12-4. Drawing inferences from data.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		M		M		M		
	Post Test Performance (Success) %		H		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

KEY:

p = primary
s - secondary

L = Lecture
C = Conference
D = Discussion Group
PE = Performance Exercise
PI = Programmed Instruction
SA = Study Assignment
T = Tutoring
COM = Combination

* Evaluation Potential

a = limited process and product feedback
b = moderate process and product feedback
c = maximal process and product feedback

COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 13.

To discuss student objectives for clinical care by:

13-1. Identifying effective discussion techniques.
13-2. Identifying objectives and needs of the clients.
13-3. Assessing the needs of the clients.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		L		M		M		
	Post Test Performance (Success) %		M		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		c		

KEY:

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 14 .

To summarize outcomes of learning experiences for students by:

14-1. Reviewing or learning techniques for summarizing learning outcomes.
14-2. Listing the primary objectives for each clinical experience.
14-3. Planning time in each clinical experience for a summary session.
14-4. Practicing incorporating data notes and observations from that day into the summary——immediate reinforcement is important.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p		s				
	Development Time (Weeks)		L		L				
	Cost for Development		L		L				
	Time Utilized (Hours)		L		M				
	Post Test Performance (Success) %		M		H				
	Units of Equipment		L		L				
	Evaluation Potential *		b		c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 15.

To facilitate communications between students and other health care professionals by:

15-1. Inviting other health care professionals to conferences and other learning situations where students are present.
15-2. Asking other health care professionals to invite students to their conferences whenever feasible.
15-3. Including the roles of other health care professionals in didactic and clinical presentations to students.
15-4. Teaching students how to consult with other health care professionals when appropriate.
15-5. Inviting students to attend interdisciplinary workshops and conferences.
15-6. Assigning students to clients who need the services of other health care professionals.
15-7. Planning clinical experiences in which other HTMs are involved.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p		s				
	Development Time (Weeks)	L	M		M				
	Cost for Development	H	H		H				
	Time Utilized (Hours)	M	H		H				
	Post Test Performance (Success) %	L	M		H				
	Units of Equipment	L	L		L				
	Evaluation Potential *	a	b		c				

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 16 .

To maintain a listing of students' learning experiences by:

16-1. Defining the educational objectives for the students' experience.

16-2. Formulating a checklist of learning experiences that are related to the educational objectives.

16-3. Planning time to allow for frequent updating of checklist of learning experiences.

16-4. Evaluating student learning experiences.

16-5. Providing students with performance feedback.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s			p		s		
	Development Time (Weeks)	L			L		L		
	Cost for Development	L			L		L		
	Time Utilized (Hours)	L			M		M		
	Post Test Performance (Success) %	L			H		H		
	Units of Equipment	L			L		L		
	Evaluation Potential *	a			c		c		

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 17.

To review with students their preparation for the clinical experience by:

17-1. Planning time for a review session prior to each clinical experience.
17-2. Planning for questioning as an integral part of the clinical experience.
17-3. Reviewing (or learning) effective question and response techniques.
17-4. Incorporating specific clinical experiences and objectives into the entire instructional unit of which it is a part.
17-5. Analyzing questions in terms of taxanomic classification of required knowledge.
17-6. Distributing objectives to students prior to the clinical experience.
17-7. Establishing a communication system by which students are given significant client information prior to the clinical experience.
17-8. Reviewing the students' cognitive and experiential background as a basis for judging quality of student preparation.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		p				s		
	Development Time (Weeks)		L				L		
	Cost for Development		L				L		
	Time Utilized (Hours)		M				H		
	Post Test Performance (Success) %		H				H		
	Units of Equipment		L				L		
	Evaluation Potential *		c				b		

KEY:

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 18 .

To encourage students to consider alternative approaches to client problems by:

18-1. Defining alternative approaches to solving client problem.

18-2. Selecting clinical experiences that are congruent with students' level of knowledge.

18-3. Identifying techniques used in problem-solving activities.

18-4. Practicing questioning skills with students to determine whether they have considered alternative approaches to client problems.

18-5. Planning to utilize problem-solving techniques as part of clinical teaching strategies.

18-6. Selecting clinical experiences that allow use of alternate approaches.

18-7. Identifying mechanisms of providing positive feedback to students who demonstrate ability to use alternative approaches to client problems.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p				
	Development Time (Weeks)		M		M				
	Cost for Development		L		L				
	Time Utilized (Hours)		H		H				
	Post Test Performance (Success) %		H		H				
	Units of Equipment		L		L				
	Evaluation Potential *		b		c				

KEY:

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 19.

To observe progress toward meeting instructional objectives made by students assigned to "difficult" clients by:

19-1. Reviewing process and content of client assessment.
19-2. Analyzing outcome of client assessment in terms of the learning objectives which have been specified for the student.
19-3. Examining the appropriate instructional objectives prior to the clinical experience.
19-4. Reviewing elements in the evaluation process.
19-5. Defining client-related situations which are likely to cause student stress.
19-6. Selecting criteria to judge the extent to which the difficulties posed by the patient should affect the student's performance.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		P				P		
	Development Time (Weeks)		L				L		
	Cost for Development		L				L		
	Time Utilized (Hours)		M				H		
	Post Test Performance (Success) %		M				H		
	Units of Equipment		L				L		
	Evaluation Potential *		b				c		

KEY:

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 20.

To allow students to select learning experiences within appropriate limits by:

20-1. Providing students appropriate practice in using self-evaluation techniques.
20-2. Assisting students in developing educational objectives in keeping with their abilities.
20-3. Reviewing the legal and agency regulations that limit what a student can choose to do.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key		s		p		s		
	Development Time (Weeks)		L		L		L		
	Cost for Development		L		L		L		
	Time Utilized (Hours)		L		M		M		
	Post Test Performance (Success) %		M		H		H		
	Units of Equipment		L		L		L		
	Evaluation Potential *		b		c		b		

KEY:

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COMPARATIVE ANALYSIS OF INSTRUCTIONAL STRATEGIES BASED UPON SELECTED CRITERIA

DISCIPLINE Nursing PRIORITY II OBJECTIVE # 21.

To discuss ethical issues of patient care with students by:

21-1. Studying the pros and cons of contemporary ethical issues.
21-2. Discussing ethical issues with knowledgeable peers.
21-3. Practicing techniques of conducting group discussions on controversial issues.
21-4. Identifying sensitive areas when discussing ethical issues which could result in student stress.
21-5. Illustrating for students eliciting sensitive information from patients and families in an unobtrusive way.
21-6. Questioning the impact of own feelings (values) and biases on students' ability to deal with ethical issues.

		INSTRUCTIONAL STRATEGIES							
		L	C	D	PE	PI	SA	T	COM
CRITERIA	Strategy Key	s	p				s		
	Development Time (Weeks)	M	M				H		
	Cost for Development	L	L				L		
	Time Utilized (Hours)	M	M				H		
	Post Test Performance (Success) %	M	H				H		
	Units of Equipment	L	L				L		
	Evaluation Potential *	a	b				c		

KEY:

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APPENDIX H

SURVEY RETURN DATA

MEDICINE, DENTISTRY, AND NURSING

APPENDIX H

NATIONAL SURVEY
RETURN RATE

MEDICINE

	FACULTY			ADMINISTRATORS		
	Sent	Received	%	Sent	Received	%
EAST	144	115	79.9	31	21	67.7
WEST	51	44	86.3	13	8	61.5
CENTRAL	110	97	88.2	27	18	66.7
TOTAL	305	256	83.9	71	47	66.2

DENTISTRY

	FACULTY			ADMINISTRATORS		
	Sent	Received	%	Sent	Received	%
EAST	95	87	91.6	14	14	100.0
WEST	42	37	88.1	8	6	75.0
CENTRAL	103	95	92.2	20	15	75.0
TOTAL	240	219	91.3	42	35	83.3

NURSING

	FACULTY			ADMINISTRATORS		
	Sent	Received	%	Sent	Received	%
EAST	322	248	77.0	67	47	70.1
WEST	123	96	78.0	26	19	73.1
CENTRAL	426	328	77.0	74	53	71.6
TOTAL	871	672	77.2	167	119	71.3

APPENDIX I

SUMMARY OF DESCRIPTIVE DATA: MEDICINE

APPENDIX I.

MEDICINE

SUMMARY OF DESCRIPTIVE DATA

Academic Rank	
Instructor	2%
Asst. Professor	32%
Assoc. Professor	32%
Professor	34%

Academic Commitment (days/week)	
2-1/2 days or less	15%
3 or 3-1/2 days	8%
4 or 4-1/2 days	8%
5 days	69%

Percentage of Time Given to Clinical Instruction	
Less than 25%	9%
25% to 50%	51%
51% to 75%	25%
More than 75%	15%

Clinical Teaching Experience	
Less than 2 years	5%
2 to 5 years	22%
More than 5 years	73%

Activities Participated in to Improve Teaching Skills (During Past 3 Years)	
Workshops or Seminars	69%
Professional Meetings	72%
Formal Course Work	28%
Reading Educational Journals	75%

APPENDIX J

SIGNIFICANT X^2 OF DESCRIPTIVE AND STRATIFICATION VARIABLES: MEDICINE

APPENDIX J.

MEDICINE

SIGNIFICANT X^2 OF DESCRIPTIVE AND STRATIFICATION VARIABLES

Type of Support by Academic Time Commitment

	Less Than 5 Days	5 Days
Public Schools	28	92
Private Schools	47	71

$X_1^2 = 6.76$ $p < .01$

Type of Support by Workshop Attendance

	Do Attend	Do Not Attend
Public Schools	85	25
Private Schools	67	44

$X_1^2 = 6.59$ $p = .01$

Geographic Region by Academic Time Commitment

	Less Than 5 Days	5 Days
Eastern Region	40	72
Central Region	29	57
Western Region	6	34

$X_2^2 = 6.16$ $p < .05$

APPENDIX J. (page 2)

MEDICINE

GEOGRAPHIC REGION BY CLINICAL TEACHING EXPERIENCE

	Less Than 2 Years	2 to 5 Years	More Than 5 Years
Eastern Region	0	22	90
Central Region	9	23	56
Western Region	4	8	29

$X_4^2 = 14.30$ $p < .01$

TEACHING ENCOUNTER BY ACADEMIC TIME COMMITMENT

	Less Than 5 Days	5 Days
Group Seminars	24	47
Patient Rounds	12	49
One-to-one Interactions	5	31
Lectures	15	7
Case Presentations	15	23

$X_4^2 = 24.28$ $p < .001$

APPENDIX K

FACTOR ANALYSES STATISTICS: MEDICINE

APPENDIX K.
MEDICINE

FACTOR ANALYSES STATISTICS

Actual

Item Inter-correlations

-.10 - -.01	.6%
.00 - .09	7.9%
.10 - .19	24.5%
.20 - .29	38.0%
.30 - .39	19.0%
.40 - .49	7.3%
.50 - .59	2.2%
.60 - .72	.5%

Loadings on One Factor

.10 - .19	1	1.3%
.20 - .29	3	3.9%
.30 - .39	11	14.5%
.40 - .49	16	21.1%
.50 - .59	26	34.2%
.60 - .69	18	23.7%
.71	1	1.3%

One factor explains 26.9% of the total variance; the second factor explains 5.4%.

Ideal

Item Inter-correlations

-.10 - -.01	.1%
.00 - .09	1.9%
.10 - .19	14.2%
.20 - .29	37.0%
.30 - .39	33.5%
.40 - .49	11.4%
.50 - .59	1.4%
.60 - .74	.4%

Loadings on One Factor

.20 - .29	1	1.3%
.30 - .39	3	3.9%
.40 - .49	18	23.7%
.50 - .59	34	44.7%
.60 - .69	20	26.3%

One factor explains 30.5% of the total variance, the second factor explains 4.1%.

APPENDIX L

ITEM MEANS AND STANDARD DEVIATIONS: MEDICINE

OMB 68-S77004 December 1977

RECTIONS:

Please circle, for each statement, one response which approximates actual use and one response which approximates ideal skill use.

APPENDIX L.

		ACTUAL How often do you feel clinical instructors in your discipline:		IDEAL How often do you feel clinical instructors in your discipline should:	
		1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER		1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER	
	Presentation and Providing Skills				
1.	Explain to students what they are expected to learn from the instruction presented	2.77	(0.92)	1.50	(0.73)
2.	Summarize major points at appropriate times during instruction	2.34	(0.88)	1.46	(0.63)
3.	Take time to check and clarify ambiguous points during presentation	2.29	(0.90)	1.42	(0.59)
4.	Review and criticize the presentation of a guest lecturer	3.95	(0.96)	2.85	(1.05)
5.	Instruct how to structure a consultation request to elicit specific information	3.46	(1.14)	2.03	(1.07)
6.	Describe how one might interact with patients of different age, sex, socio-economic or ethnic backgrounds	3.06	(1.07)	1.95	(0.96)
7.	Outline problem-solving approaches to the case	2.37	(0.96)	1.61	(0.83)
8.	Instruct students on how to select and utilize consultants effectively	3.17	(1.04)	1.95	(0.91)
9.	Provide significance of the laboratory data	2.07	(0.89)	1.52	(0.67)
10.	Explain apparent prognosis	2.11	(0.92)	1.57	(0.74)
1.	Use a "problem listing" in organizing case summary	2.79	(1.23)	2.10	(1.16)
12.	Refer to the research of others	2.46	(0.87)	2.05	(0.81)
3.	Discuss and explain basis of alternative diagnostic procedures and data with students	2.16	(0.75)	1.55	(0.68)
14.	Discuss and explain basis of alternative therapeutic procedures	2.17	(0.82)	1.54	(0.74)
5.	Discuss laboratory results with resident in presence of students	2.39	(1.07)	2.08	(0.99)
16.	Check selected elements of student work-up by interviewing or examining patient in presence of students	2.62	(1.16)	1.77	(0.89)
7.	Demonstrate specific clinical techniques	2.36	(0.93)	1.67	(0.78)
18.	Relate educational reading material to a current patient	2.42	(0.85)	1.64	(0.66)
9.	Give pointers on how to perform a good clinical physical exam as related to specific case	2.42	(0.93)	1.58	(0.83)
20.	Present material in a clear, logical, organized manner	2.24	(0.71)	1.16	(0.44)
1.	Calmly organize and control a chaotic clinical situation	2.37	(0.79)	1.41	(0.79)
2.	Stimulate student interest in a specific patient during presentation	2.29	(0.78)	1.41	(0.67)
3.	Inform student of evaluation criteria for measuring his performance	2.89	(1.27)	1.57	(0.80)
	Relate general disease concepts to a specific patient	2.21	(0.77)	1.56	(0.63)
5.	Encourage and provide student opportunities to teach	3.48	(0.98)	2.39	(0.90)
6.	Give reading or work-up assignments prior to presentation or discussion	2.99	(1.09)	2.05	(0.85)

OMB 68-S77004 December 1977

IRECTIONS:

se circle, for each statement, one response which approximates actual use and one response which approximates ideal skill use.

APPENDIX L.
(page 2)

	ACTUAL How often do you feel clinical instructors in your discipline:		IDEAL How often do you feel clinical instructors in your discipline should:	
	1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER		1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER	
B. Questioning Skills				
27. Explain incorrect responses to questions	2.22	(0.86)	1.40	(0.61)
28. Guide the student to a desired answer through a series of "hints"	2.53	(0.85)	2.30	(0.91)
9. Pose contrived questions to increase depth of discussion or understanding	2.61	(0.92)	2.24	(0.88)
30. Question students regarding diagnostic tests appropriate to situation	2.08	(0.71)	1.59	(0.70)
31. Question students about significance of physical findings	1.96	(0.78)	1.42	(0.62)
32. Ask for a "problem listing" on the patient	2.74	(1.20)	1.97	(1.03)
3. Ask for a differential diagnosis by the student	1.83	(0.79)	1.42	(0.61)
34. Probe student responses with further questions	1.98	(0.80)	1.55	(0.66)
Ask student to differentiate between essential and non-essential data	2.37	(0.90)	1.51	(0.64)
36. Ask students for data and/or literature references to support opinions and/or conclusions	3.14	(0.90)	2.20	(0.82)
7. Ask students how to manage patients	2.20	(0.90)	1.79	(0.81)
38. Provide discussion by presenting hypothetical patient problems	2.62	(0.99)	2.21	(0.88)
9. Ask questions which make student use deductive reasoning	2.44	(0.87)	1.73	(0.74)
0. Encourage students to think about or state other diagnostic possibilities	2.04	(0.77)	1.49	(0.61)
1. Elaborate on student responses	2.27	(0.84)	1.78	(0.72)
2. Ask student for successive management steps	2.58	(0.91)	1.89	(0.80)
C. Attending Skills				
3. Present behavioral, social, family and financial factors in decisions regarding patient management	2.67	(1.02)	1.76	(0.87)
4. Prepare for class and student sessions	2.46	(1.01)	1.52	(0.75)
5. Point out student's missed observations	2.19	(0.72)	1.49	(0.64)
46. Provide meaningful and accurate estimates of student performance for evaluation, promotion and/or review committees on a regular basis	2.41	(1.03)	1.37	(0.61)
47. Respond to student requests for advice regarding patient evaluation and management	1.66	(0.73)	1.21	(0.50)
8 Give a series of hypothetical management complications	2.80	(0.90)	2.22	(0.89)
Respond enthusiastically to questions	2.16	(0.80)	1.36	(0.60)
0. Recognize students' educational problems	2.70	(0.89)	1.33	(0.60)
1. Encourage students while they are performing procedures	2.47	(1.02)	1.63	(0.82)
52. Give positive verbal reinforcement on clinical performance	2.35	(0.88)	1.44	(0.62)
3. Provide frequent feedback on student performance	2.78	(0.88)	1.49	(0.66)

OMB 68-S77004 December 1977

DIRECTIONS:

ase circle, for each statement, one response which approximates actual
.l use and one response which approximates ideal skill use.

ACTUAL
How often do you feel clinical instructors in your discipline:

IDEAL
How often do you feel clinical instructors in your discipline should:

APPENDIX L.
(page 3)

ACTUAL					IDEAL				
ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER	ALMOST ALWAYS	OFTEN	SOMETIMES	NOT VERY OFTEN	ALMOST NEVER
1	2	3	4	5	1	2	3	4	5

54.	Assess current level of student understanding of topic and gear discussion to that level	2.54	(0.89)	1.63	(0.71)
55.	Correct mistakes in a positive and constructive way	2.29	(0.79)	1.24	(0.49)
56.	Provide a breakdown of complicated topics to more easily understood terms	2.44	(0.85)	1.46	(0.60)
57.	Ask students about difficulties on service	2.55	(1.06)	1.56	(0.73)
58.	Ask students for feedback and suggestions for improving learning experience on the service	2.31	(1.14)	1.38	(0.64)
D.	**Teaching Styles/Attitudes**				
59.	Convey a tolerance for uncertainty in medical problems	2.22	(0.86)	1.51	(0.73)
60.	Demonstrate an interest in the students' efforts to learn	2.10	(0.84)	1.25	(0.50)
	Admit limits of own medical knowledge and experience	2.23	(0.99)	1.44	(0.64)
	Encourage students to give information	1.95	(0.77)	1.38	(0.59)
63.	Consider student suggestions on patient evaluation and management	2.26	(0.91)	1.68	(0.76)
64.	Redirect instruction or discussion to original topic	2.37	(0.75)	1.81	(0.68)
65.	Emphasize promptness for teaching sessions	2.51	(1.03)	1.65	(0.79)
66.	Show enthusiasm about their profession	1.98	(0.88)	1.34	(0.58)
67.	Allow for open discussion during a presentation	2.07	(0.84)	1.58	(0.72)
68.	Provide consistency in the critique of students' performance	2.58	(0.96)	1.31	(0.59)
69.	Provide time for discussion with individual students	2.72	(1.00)	1.54	(0.72)
70.	Provide for student participation in the instructional process	2.55	(1.03)	1.78	(0.77)
71.	Provide a teaching session on an event that just occurred during rounds	2.87	(1.00)	2.08	(0.78)
72.	Convey a willingness to learn from students	2.58	(1.02)	1.48	(0.66)
73.	Convey and demonstrate leadership skill as a professional attribute	2.35	(0.87)	1.50	(0.68)
74.	Demonstate critical appraisal of lab data, consultant recommendations, etc.	2.16	(0.81)	1.51	(0.65)
75.	Encourage students to evaluate critically, lab data, consultant recommendations, etc.	2.12	(0.79)	1.37	(0.59)
76.	Convey respect for other specialties, disciplines and professions	2.35	(0.97)	1.39	(0.61)

APPENDIX M

MULTIVARIATE RESULTS FOR SKILL GROUPING BY STRATIFICATION VARIABLES: MEDICINE

APPENDIX M.

MEDICINE

MULTIVARIATE RESULTS FOR SKILL GROUPING BY STRATIFICATION VARIABLES

Actual

Skill Grouping	Size	Location	Support
A	NS*	NS	NS
B	NS	p=.05 (2)**	p=.04 (1)
C	NS	NS	NS
D	NS	NS	NS

Ideal

Skill Grouping	Size	Location	Support
A	p=.03 (4)	NS	NS
B	NS	NS	NS
C	NS	NS	NS
D	NS	NS	NS

*NS indicates not significant at the .05 level.

**Numbers in parenthesis indicate number of individual items with a significant univariate F.

APPENDIX N

PRIORITIZATION OF ITEMS

APPENDIX N.

MEDICINE

PRIORITIZATION OF ITEMS

High Difference
(d > .93)

ACTUAL \ IDEAL	1.0 H 2.0	2.0 M 3.0	3.0 L 4.0
1.0 H 2.0			
2.0 M 3.0	1,20,21,23 44,46,50, 53,55,56,57 68,69,72, 76	26	
3.0 L 4.0	6,8	4,5,25, 36	

Medium Difference
(.66 ≤ d ≤ .93

ACTUAL \ IDEAL	1.0 H 2.0	2.0 M 3.0	3.0 L 4.0
1.0 H 2.0			
2.0 M 3.0	2,3,7,16,17, 18,19,22,27, 32,35,39,42, 45,49,51,52, 54,58,59,60, 61,65,70,73 74,75	11,71	
3.0 L 4.0			

Low Difference
(d < .66)

ACTUAL \ IDEAL	1.0 H 2.0	2.0 M 3.0	3.0 L 4.0
1.0 H 2.0	31,33,34, 47,62,66		
2.0 M 3.0	9,10,13,14, 24,30,37,40 41,63,64, 67	12,15,28, 29,38,48	
3.0 L 4.0			

Priority 1 Items - High Difference, Below Diagonal

Priority 2 Items - Medium Difference, Below Diagonal

Priority 3 Items - Low Difference, Below Diagonal

Priority 0 Items - On Diagonal

APPENDIX O

ITEM PRIORITIZATION BY SKILL GROUPING

PERCENT OF ITEMS IN EACH PRIORITY CLASS

APPENDIX O.
MEDICINE

ITEM PRIORITIZATION BY SKILL GROUPING

PERCENT OF ITEMS IN EACH PRIORITY CLASS

Skill Grouping	Priority 1	Priority 2	Priority 3	Priority 0
A	35	31	19	15
B	6	31	25	38
C	44	44	0	12
D	22	44	17	17

APPENDIX II

SUMMARY OF DESCRIPTIVE DATA:
DENTISTRY

APPENDIX II.

DENTISTRY

SUMMARY OF DESCRIPTIVE DATA

Academic Rank	
Instructor	8%
Asst. Professor	27%
Assoc. Professor	33%
Professor	32%

Academic Commitment (days/week)	
2-1/2 days or less	8%
3 or 3-1/2 days	6%
4 or 4-1/2 days	29%
5 days	57%

Percentage of Time Given to Clinical Instruction	
Less than 25%	13%
25% to 50%	32%
51% to 75%	36%
More than 75%	19%

Clinical Teaching Experience	
Less than 2 years	3%
2 to 5 years	27%
More than 5 years	70%

Activities Participated in to Improve Teaching Skills (During Past 3 Years)	
Workshops or Seminars	91%
Professional Meetings	86%
Formal Course Work	36%
Reading Educational Journals	86%

APPENDIX JJ

SIGNIFICANT X^2 OF DESCRIPTIVE AND STRATIFICATION VARIABLES: DENTISTRY

APPENDIX JJ.

DENTISTRY

SIGNIFICANT X^2 OF DESCRIPTIVE AND STRATIFICATION VARIABLES

Type of Support by Academic Time Commitment

	Less Than 4 Days	4 or 4.5 Days	5 Days
Public Schools	13	21	89
Private Schools	15	38	24

$X_2^2 = 33.6$ $p < .001$

Size of School by Academic Rank

	Instructor	Assistant Professor	Associate Professor	Professor
Smaller Schools	15	41	36	33
Larger Schools	2	14	29	29

$X_3^2 = 11.9$ $p < .01$

Size of School by Clinical Teaching Experience

	5 Years or Less	More Than 5 Years
Smaller Schools	47	79
Larger Schools	12	62

$X_1^2 = 8.98$ $p < .01$

APPENDIX JJ. (page 2)
DENTISTRY

Size of School by Attendance at Professional Meeting

	Do Attend	Do Not Attend
Smaller Schools	104	22
Larger Schools	70	4

$X_1^2 = 4.97$ $p < .05$

Size of School by Reading Educational Journals

	Do Read	Do Not Read
Smaller Schools	104	22
Larger Schools	70	4

$X_1^2 = 4.97$ $p < .05$

APPENDIX KK

FACTOR ANALYSES STATISTICS:
DENTISTRY

APPENDIX KK.

DENTISTRY

FACTOR ANALYSES STATISTICS

Actual

Item Inter-correlations

.00 - .09	1.8%
.10 - .19	12.3%
.20 - .29	37.3%
.30 - .39	33.3%
.40 - .49	12.8%
.50 - .59	2.1%
.60 - .69	.3%
.71	.1%

Loadings on One Factor

.30 - .39	2	3.3%
.40 - .49	13	21.3%
.50 - .59	24	39.3%
.60 - .69	19	31.1%
.70 - .73	3	4.9%

One factor explains 31.4% of the total variance; the second factor explains 4.8%.

Ideal

Item Inter-correlations

-.10 --.01	1.1%
.00 - .09	10.1%
.10 - .19	33.9%
.20 - .29	35.4%
.30 - .39	15.8%
.40 - .49	3.3%
.50 - .59	.4%

Loadings on One Factor

.10 - .19	1	1.6%
.20 - .29	1	1.6%
.30 - .39	9	14.8%
.40 - .49	26	42.6%
.50 - .59	19	31.1%
.60 - .69	5	8.2%

One factor explains 23.3% of the total variance; the second factor explains 5.1%.

APPENDIX LL

ITEM MEANS AND STANDARD DEVIATIONS:
DENTISTRY

OMB 68-S77004 December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates actual skill use and one response which approximates ideal skill use.

APPENDIX LL.

ACTUAL How often do you feel clinical instructors in your discipline:

1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER

IDEAL How often do you feel clinical instructors in your discipline should:

1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER

		ACTUAL		IDEAL	
A.	**Presentation and Providing Skills**				
1.	Explain to students what they are expected to learn from the instruction presented	2.50	(0.97)	1.52	(0.85)
2.	Identify and emphasize the more important concepts	1.99	(0.76)	1.23	(0.47)
3.	Make specific suggestions regarding procedures before treatment	2.19	(0.89)	1.59	(0.73)
4.	Explain own patient-management observations	2.68	(0.86)	2.15	(0.81)
5.	Give suggestions to increase speed in performing procedure	2.85	(0.91)	2.18	(0.87)
6.	Demostrate proper use of instruments and equipment	2.35	(0.93)	1.67	(0.75)
7.	Use audio-visual aids or 2 or 3 dimensional aids when appropriate in describing techniques or concepts that are different	3.33	(1.18)	2.07	(0.94)
8.	Summarize tasks necessary for each student to accomplish the objectives	2.92	(1.03)	1.89	(0.87)
9	Summarize time-frame necessary for each student to accomplish the objective	3.16	(1.10)	2.14	(0.91)
10.	Use humor appropriately	2.77	(0.81)	2.24	(0.83)
11.	Assist in clarifying patient-management problems	2.39	(0.89)	1.67	(0.74)
12.	Suggest alternate procedure when student is correct or incorrect	2.54	(0.89)	2.09	(0.95)
13.	Give rationale for a particular treatment	2.08	(0.90)	1.32	(0.61)
14.	Demonstrate appropriate clinical techniques	2.23	(0.86)	1.68	(0.80)
15.	Demonstrate clinical procedures at a rate appropriate to the students' needs	2.39	(0.87)	1.56	(0.76)
16.	Explain alternate treatment plans to student	2.53	(0.92)	1.84	(0.83)
17.	Demonstrate skill of explaining estimates of expenses to patients	3.59	(1.11)	2.38	(0.97)
18.	Exhibit ability to follow-up on students	2.89	(0.96)	1.70	(0.75)
19.	Use a planned variety of instructional activity (e.g., questioning, demonstration, etc.)	2.81	(0.95)	1.74	(0.80)
B.	**Questioning Skills**				
20.	Identify a student's strengths/weaknesses in his current skill level	2.52	(0.87)	1.37	(0.60)
21.	Answer student questions immediately	1.73	(0.74)	1.36	(0.60)
22.	Ask student for positive or negative comments on suggested techniques	3.14	(1.04)	2.23	(0.93)
23.	Ask student to comment on specific procedures during treatment	3.08	(0.94)	2.17	(0.88)
24.	Ask student to participate in his learning by discussing, i.e.; procedures, etc.	2.63	(0.94)	1.67	(0.72)

OMB 68-S77004 December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates actual skill use and one response which approximates ideal skill use.

APPENDIX LL.
(page 2)

		ACTUAL How often do you feel clinical instructors in your discipline:		IDEAL How often do you feel clinical instructors in your discipline should:	
		1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER		1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER	
25.	Ask for student opinion	2.89	(1.04)	2.19	(0.85)
26.	Ask student if assistance is needed before the procedure	2.72	(1.10)	1.84	(0.97)
27.	Ask student questions during demonstration to maintain their attention	2.78	(1.01)	2.05	(0.94)
8.	Ask student to describe course of treatment	2.60	(0.96)	1.80	(0.81)
29.	Ask student to define questions which need to be asked to acceptably resolve a patient's treatment or management problems	3.03	(1.01)	1.96	(0.87)
30.	Permit students to assume primary responsibility for answering questions	2.46	(0.91)	1.85	(0.74)
31.	Ask students to identify strengths and weaknesses in their own performance	3.23	(1.04)	1.79	(0.82)
C.	**Attending Skills**				
	Explain basis for decisions in patient care to student	2.10	(0.87)	1.38	(0.63)
33.	Attempt to describe model behavior prior to a student beginning a procedure	3.04	(1.02)	2.07	(0.90)
34.	Give students systematic evaluation of their progress	2.63	(1.09)	1.44	(0.64)
35.	Maintain eye contact	2.22	(0.96)	1.67	(0.78)
36.	Actively listen to student	2.00	(0.93)	1.22	(0.51)
37.	Provide direct and to the point responses to student questions	1.90	(0.79)	1.31	(0.56)
38.	Summarize important points	2.44	(0.94)	1.52	(0.69)
39.	Restate, reflect or clarify student's explanation	2.64	(0.88)	1.93	(0.82)
40.	Provide instructional time for discussion	2.84	(1.09)	1.75	(0.80)
41.	Provide reinforcement when a student responds to a question	2.31	(0.82)	1.61	(0.64)
42.	Willing to offer assistance if needed in procedure	1.43	(0.65)	1.14	(0.39)
D.	**Teaching Styles/Attitudes**				
43.	Encourage students to use own judgment, when appropriate	2.07	(0.90)	1.46	(0.66)
44.	Prepare for class and student sessions	1.84	(1.03)	1.30	(0.73)
45.	Consult with students regarding progress on procedures	2.24	(0.83)	1.55	(0.70)
46.	Permit student explanation of issues	2.22	(0.86)	1.61	(0.66)
47	Take time to be perceptive to students' problems	2.19	(0.87)	1.26	(0.47)
	Provide empathy to students when appropriate	2.02	(0.84)	1.35	(0.56)
49.	Offer constructive criticism to student	1.91	(0.76)	1.32	(0.53)
50.	Allow time for student to express differing opinions	2.44	(0.96)	1.69	(0.75)
51.	Establish rapport with students	1.89	(0.80)	1.26	(0.49)

OMB 68-S77004 December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates actual skill use and one response which approximates ideal skill use.

APPENDIX LL.
(page 3)

	ACTUAL How often do you feel clinical instructors in your discipline: 1 ALMOST ALWAYS, 2 OFTEN, 3 SOMETIMES, 4 NOT VERY OFTEN, 5 ALMOST NEVER		**IDEAL** How often do you feel clinical instructors in your discipline should: 1 ALMOST ALWAYS, 2 OFTEN, 3 SOMETIMES, 4 NOT VERY OFTEN, 5 ALMOST NEVER	
52. Make themselves accessible to students	1.68	(0.72)	1.29	(0.49)
53. Assist rather than direct students in completing procedures	2.48	(0.88)	2.19	(0.91)
54. Clarify uncertainties in clinical diagnosis	1.84	(0.79)	1.22	(0.50)
55. Encourage students to ask questions	2.11	(0.94)	1.34	(0.59)
56. Provide the opportunity for the student to diagnose	1.74	(0.80)	1.23	(0.47)
57. Explain practical approaches to the management of patient problems in ways that are clearly understood by the student	2.11	(0.79)	1.33	(0.64)
58. Avoid negative criticism of students in front of patients	1.59	(0.82)	1.06	(0.31)
59. Avoid negative criticism of students in front of staff	2.07	(0.99)	1.46	(0.74)
60. Attend clinical teaching sessions	2.18	(1.14)	1.46	(0.71)
Treat students with respect in the presence of patients	1.41	(0.64)	1.04	(0.31)

APPENDIX MM

MULTIVARIATE RESULTS FOR SKILL GROUPING BY STRATIFICATION VARIABLES: DENTISTRY

APPENDIX MM.

DENTISTRY

MULTIVARIATE RESULTS FOR SKILL GROUPING BY STRATIFICATION VARIABLES

Actual

Skill Grouping	Size	Location	Support
A	NS*	p=.02 (1)**	NS
B	p=.02 (2)	NS	p=.01 (2)
C	NS	p=.05 (1)	NS
D	NS	NS	NS

Ideal

Skill Grouping	Size	Location	Support
A	NS	NS	NS
B	NS	NS	NS
C	NS	NS	NS
D	NS	NS	NS

*NS indicates not significant at the .05 level.

**Numbers in parenthesis indicate number of individual items with a significant univariate F.

APPENDIX NN

PRIORITIZATION OF ITEMS:
DENTISTRY

APPENDIX NN.

DENTISTRY

PRIORITIZATION OF ITEMS

High Difference
(d > .88)

ACTUAL \ IDEAL	H (1.0–2.0)	M (2.0–3.0)	L (3.0–4.0)
H (1.0–2.0)			
M (2.0–3.0)	1,8,18,19 20,24,34, 38,40,47		
L (3.0–4.0)	29,31	7,9,17,22 23,33	

Medium Difference
(.63 ≤ d ≤ .88)

ACTUAL \ IDEAL	H (1.0–2.0)	M (2.0–3.0)	L (3.0–4.0)
H (1.0–2.0)	2,51		
M (2.0–3.0)	6,11,13,15 16,26,28,32 36,39,41,45 48,50,55,57 60	5,25,27	
L (3.0–4.0)			

Low Difference
(d < .63)

ACTUAL \ IDEAL	H (1.0–2.0)	M (2.0–3.0)	L (3.0–4.0)
H (1.0–2.0)	21,37,42, 44,49,52, 54,56,58, 61		
M (2.0–3.0)	3,14,30, 35,43,46, 59	4,10,12, 53	
L (3.0–4.0)			

Priority 1 Items - High
Difference, Below Diagonal

Priority 2 Items - Medium
Difference, Below Diagonal

Priority 3 Items - Low
Difference, Below Diagonal

Priority 0 Items - On
Diagonal

APPENDIX OO

ITEM PRIORITIZATION BY SKILL GROUPING PERCENT OF ITEMS IN EACH PRIORITY CLASS

APPENDIX OO.

DENTISTRY

ITEM PRIORITIZATION BY SKILL GROUPING

PERCENT OF ITEMS IN EACH PRIORITY CLASS

Skill Grouping	Priority 1	Priority 2	Priority 3	Priority 0
A	37	26	11	26
B	50	17	8	25
C	36	36	9	18
D	5	32	16	47

APPENDIX III

SUMMARY OF DESCRIPTIVE DATA:
NURSING

APPENDIX III.
NURSING
SUMMARY OF DESCRIPTIVE DATA

Academic Rank

Instructor	34%
Asst. Professor	47%
Assoc. Professor	18%
Professor	1%

Academic Commitment (days/week)

2-1/2 days or less	5%
3 or 3-1/2 days	3%
4 or 4-1/2 days	8%
5 days	84%

Percentage of Time Given to Clinical Instruction

Less than 25%	4%
25% to 50%	48%
51% to 75%	40%
More than 75%	8%

Clinical Teaching Experience

Less than 2 years	10%
2 to 5 years	35%
More than 5 years	55%

Activities Participated in to Improve Teaching Skills (During Past 3 Years)

Workshops or Seminars	95%
Professional Meetings	80%
Formal Course Work	66%
Reading Educational Journals	93%

APPENDIX JJJ

SIGNIFICANT X^2 OF DESCRIPTIVE AND STRATIFICATION VARIABLES: NURSING

APPENDIX JJJ.

NURSING

SIGNIFICANT X^2 OF DESCRIPTIVE AND STRATIFICATION VARIABLES

Type of Support by Time Given to Clinical Instruction

	Up to 50% of Total	51% to 75% of Total	More than 75% of Total
Public Schools	159	152	33
Private Schools	174	103	18

$X_2^2 = 10.81$ $p < .01$

Geographic Region by Academic Rank

	Instructor	Assistant Professor	Assoc/Full Professor
Eastern Region	86	102	51
Central Region	115	147	52
Western Region	19	54	21

$X_4^2 = 11.50$ $p < .05$

APPENDIX JJJ. (page 2)

NURSING

Geographic Region by Time Given to Clinical Instruction

	Up to 50% of Total	51% to 75% of Total	More than 75% of Total
Eastern Region	143	76	17
Central Region	151	139	21
Western Region	39	40	13

$\chi^2_4 = 16.40$ $p < .01$

Size of School by Academic Rank

	Instructor	Assistant Professor	Assoc/Full Professor
Smaller Schools	141	197	64
Larger Schools	79	106	60

$\chi^2_2 = 7.26$ $p < .05$

APPENDIX KKK

FACTOR ANALYSES STATISTICS:
NURSING

APPENDIX KKK.

NURSING

FACTOR ANALYSES STATISTICS

Actual

Item Inter-correlations	
-.10 - -.01	----
.00 - .09	1.3%
.10 - .19	14.2%
.20 - .29	43.4%
.30 - .39	27.7%
.40 - .49	9.9%
.50 - .59	2.7%
.60 - .69	.7%
.70 - .80	.1%

Loadings on one Factor		
.20 - .29	1	1.4%
.30 - .39	3	4.2%
.40 - .49	20	27.8%
.50 - .59	21	29.2%
.60 - .69	26	36.1%
.71	1	1.4%

One factor explains 30.4% of the total varience; the second factor explains 5.3%.

Ideal

Item Inter-correlations	
-.10 - -.01	.2%
.00 - .09	12.8%
.10 - .19	44.2%
.20 - .29	29.9%
.30 - .39	8.6%
.40 - .49	2.3%
.50 - .59	1.1%
.60 - .69	.7%
.70 - .83	.2%

Loadings on one Factor		
.20 - .29	6	8.3%
.30 - .39	17	23.6%
.40 - .49	22	30.6%
.50 - .59	18	25.0%
.60 - .69	9	12.5%

One factor explains 21.6% of the total variance; the second factor explains 5.6%

APPENDIX LLL

ITEM MEANS AND STANDARD DEVIATIONS:
NURSING

OMB 68-S77004 December 1977

DIRECTIONS:

Please circle, for each statement, one response which approximates actual 'l use and one response which approximates ideal skill use.

APPENDIX LLL.

		ACTUAL How often do you feel clinical instructors in your discipline:		**IDEAL** How often do you feel clinical instructors in your discipline should:	
		1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER		1 ALMOST ALWAYS 2 OFTEN 3 SOMETIMES 4 NOT VERY OFTEN 5 ALMOST NEVER	
A.	**Presentation and Providing Skills**				
1.	Inform students of objectives of upcoming learning experience(s)	1.97	(0.86)	1.25	(0.59)
2.	Provide examples to highlight and clarify content	2.03	(0.68)	1.37	(0.55)
3.	Direct student to learning resources	2.12	(0.71)	1.57	(0.73)
4.	Select appropriate teaching aids	2.43	(0.81)	1.30	(0.56)
5.	Demonstrate nursing procedure	2.40	(0.99)	1.96	(0.94)
6.	Demonstrate, with student as observer, nursing care for client	2.94	(0.98)	2.19	(0.93)
7.	Demonstrate, with student as observer, interpersonal relationships with clients	2.68	(0.97)	1.92	(0.83)
8.	Demonstrate, with student as observer, interpersonal relationships with other health team members	2.63	(0.96)	1.85	(0.83)
9.	Demonstrate, with student as observer, client teaching and assessment (presenting behaviors and history)	2.98	(1.02)	1.99	(0.90)
10.	Demonstrate effective clinical nursing techniques	2.38	(0.91)	1.69	(0.85)
11.	Respond succinctly to questions	2.17	(0.78)	1.34	(0.65)
12.	Demonstrate nursing care rather than tell about it	2.81	(0.92)	1.97	(0.88)
13.	Select clinical experiences that require students to use decision-making skills	2.02	(0.77)	1.25	(0.47)
14.	Involve agency staff in planning learning experiences	2.68	(1.07)	1.76	(0.80)
15.	Involve agency staff in implementing learning experiences	2.76	(1.02)	1.94	(0.88)
16.	Involve agency staff in evaluating learning experiences	3.28	(1.12)	2.10	(1.01)
B.	**Questioning Skills**				
17.	Question students to determine accuracy of observations of client conditions	1.86	(0.72)	1.29	(0.53)
18.	Question students to determine completeness of observations of client conditions	1.92	(0.76)	1.30	(0.55)
19.	Question students to assess understanding of the purpose of procedures	1.91	(0.78)	1.28	(0.54)
20.	Question students to assess students' ability to apply principles to client's condition and needs	1.98	(0.77)	1.25	(0.49)
21.	Question students to assess students' ability to apply facts to client's condition and needs	1.98	(0.78)	1.31	(0.56)
22.	Question students to assess students' ability to identify various client manifestations as examples of particular physiological or psychological conditions about which the student should know	2.02	(0.81)	1.34	(0.58)
23.	Question students to determine students' knowledge regarding the acceptable limits of "normalcy" in client condition	2.15	(0.86)	1.37	(0.61)

DIRECTIONS:

Please circle, for each statement, one response which approximates actual
ll use and one response which approximates ideal skill use.

APPENDIX LLL.
(page 2)

		ACTUAL How often do you feel clinical instructors in your discipline: 1 ALMOST ALWAYS, 2 OFTEN, 3 SOMETIMES, 4 NOT VERY OFTEN, 5 ALMOST NEVER		IDEAL How often do you feel clinical instructors in your discipline should: 1 ALMOST ALWAYS, 2 OFTEN, 3 SOMETIMES, 4 NOT VERY OFTEN, 5 ALMOST NEVER	
24.	Question students to determine students' understanding of objectives of the clinical experience	2.74	(0.99)	1.53	(0.71)
25.	Question students to assess students' understanding of the planned completed clinical experience in terms of their relationship to the unit being studied	2.78	(1.05)	1.60	(0.72)
26.	Question students to encourage students to identify and verbalize their own feelings about the patient, his condition, and the care the student gave the client	2.10	(0.92)	1.36	(0.58)
27.	Question students to assess their ability to correctly interpret lab, chart, or equipment data	2.18	(0.90)	1:47	(0.68)
28.	Determine level of student preparation	1.96	(0.86)	1.30	(0.54)
29.	Help students to understand the contributions of other health team members to client care	2.44	(0.88)	1.53	(0.62)
30.	Help students apply research findings	3.24	(1.04)	1.74	(0.70)
C.	**Attending Skills**				
31.	Answer students' questions during a teaching session	1.56	(0.70)	1.35	(0.63)
32.	Explain relationship between clinical assignment and educational objectives	2.43	(0.99)	1.44	(0.65)
33.	Inform agency staff of student assignments and responsibilities	1.53	(0.77)	1.11	(0.34)
34.	Explain modifications necessary to correct ineffective plans of nursing care	1.96	(0.76)	1.34	(0.60)
35.	Discuss student objectives for clinical care	2.14	(0.92)	1.28	(0.51)
36.	Provide written feedback on students' performance	1.86	(0.97)	1.34	(0.65)
37.	Provide oral feedback on students' performance	1.70	(0.77)	1.07	(0.31)
33.	Keep written evaluation (numeric or narrative) on students' performance	1.65	(0.87)	1.17	(0.47)
39.	Summarize outcomes of learning experiences for students	2.29	(1.04)	1.50	(0.77)
40.	Compliment students for competent clinical performance	1.98	(0.90)	1.20	(0.48)
41.	Return assignments to students as promised	1.68	(0.79)	1.05	(0.23)
42.	Maintain notes to report and discuss student progress after each clinical experience	2.33	(1.10)	1.37	(0.66)
.	Observe condition of client assigned to each student with an eye to client-related barriers which may inhibit student from meeting delineated instructional objectives	2.36	(0.97)	1.43	(0.68)
44.	Identify errors in students' procedure	1.70	(0.71)	1.19	(0.48)
45.	Inform students of correct procedure	1.63	(0.74)	1.27	(0.64)
46.	Give students the opportunity to perform procedures correctly	1.76	(0.75)	1.16	(0.46)

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DIRECTIONS:

ase circle, for each statement, one response which approximates actual
.l use and one response which approximates ideal skill use.

APPENDIX LLL.
(page 3)

ACTUAL
How often do you feel clinical instructors in your discipline:

ALMOST ALWAYS 1 | OFTEN 2 | SOMETIMES 3 | NOT VERY OFTEN 4 | ALMOST NEVER 5

IDEAL
How often do you feel clinical instructors in your discipline should:

ALMOST ALWAYS 1 | OFTEN 2 | SOMETIMES 3 | NOT VERY OFTEN 4 | ALMOST NEVER 5

		ACTUAL		IDEAL	
47.	Give direct assistance to students when performing tasks the students perceive as being difficult	1.89	(0.87)	1.65	(0.86)
48.	Remain objective in student evaluation	2.10	(0.81)	1.16	(0.42)
49.	Remain perceptive to student needs and problems	2.02	(0.76)	1.10	(0.31)
50.	Remain realistic regarding expected student performance	2.13	(0.77)	1.12	(0.33)
51.	Facilitate communications between students and other health care professionals	2.25	(0.85)	1.40	(0.58)
52.	Facilitate student participation in discussions	1.96	(0.76)	1.26	(0.49)
53.	Modify teaching strategies to achieve specified goals	2.21	(0.81)	1.24	(0.48)
54.	Assist students in intervening on behalf of the client	2.12	(0.81)	1.56	(0.75)
55.	Encourage students to express feelings	1.80	(0.88)	1.27	(0.49)
	Teaching Styles/Attitudes				
56.	Maintain a listing of students' learning experiences	2.30	(1.17)	1.58	(0.91)
57.	Review with students their preparation for the clinical experience	2.22	(0.93)	1.42	(0.65)
58.	Encourage students to consider alternative approaches to client problems	2.07	(0.80)	1.32	(0.54)
59.	Observe progress toward meeting instructional objectives made by students assigned to "difficult" clients	2.02	(0.83)	1.32	(0.58)
60.	Assist students in seeking client's contribution in developing a health care plan	2.39	(0.96)	1.41	(0.64)
61.	Assist students in understanding issues which affect the profession of nursing	2.38	(0.94)	1.42	(0.59)
62.	Seek student opinions regarding teaching effectiveness	1.94	(0.91)	1.35	(0.56)
63.	Provide time for student accessibility	1.76	(0.80)	1.24	(0.44)
64.	Advise students about performance	1.72	(0.73)	1.19	(0.40)
65.	Maintain calmness and deliberateness in behavior	1.84	(0.72)	1.23	(0.47)
66.	Deal with student's frustrations, confusion, and anxieties	1.97	(0.82)	1.31	(0.53)
67.	Allow students to select learning experiences within appropriate limits	2.18	(1.00)	1.56	(0.67)
68.	Display enthusiasm	1.87	(0.78)	1.26	(0.46)
69.	Remain consistent in behavior toward students	1.91	(0.76)	1.17	(0.42)
.	Discuss ethical issues of patient care with students	2.01	(0.88)	1.37	(0.55)
71.	Display self-confidence	1.68	(0.67)	1.17	(0.38)
72.	Ask students for suggestions in improving the learning experiences	1.80	(0.84)	1.26	(0.50)

APPENDIX MMM

MULTIVARIATE RESULTS FOR SKILL GROUPING BY STRATIFICATION VARIABLES: NURSING

APPENDIX MMM.

NURSING

MULTIVARIATE RESULTS FOR SKILL GROUPING BY STRATIFICATION VARIABLES

Actual

Skill Grouping	Size	Location	Support
A	NS*	p=.02 (4)**	NS
B	NS	NS	NS
C	NS	NS	NS
D	p=.03 (2)	NS	NS

Ideal

Skill Grouping	Size	Location	Support
A	NS	NS	NS
B	NS	NS	NS
C	NS	NS	NS
D	NS	NS	NS

*NS indicates not significant at the .05 level

**Numbers in parenthesis indicate number of individual items with a significant univariate F.

APPENDIX NNN

PRIORITIZATION BY ITEMS:
NURSING

APPENDIX NNN.

NURSING

PRIORITIZATION OF ITEMS

High Difference
$(d > .85)$

ACTUAL \ IDEAL	1.0 H 2.0	2.0 M 3.0	3.0 L 4.0
1.0 H 2.0			
2.0 M 3.0	4,9,14,24, 25,29,32, 42,43,48, 49,50,53, 60,61		
3.0 L 4.0	30	16	

Medium Difference
$(.62 \leq d \leq .85)$

ACTUAL \ IDEAL	1.0 H 2.0	2.0 M 3.0	3.0 L 4.0
1.0 H 2.0	1,18,19,20 21,28,34,37 40,41,52,66 69		
2.0 M 3.0	2,7,8,10,11 12,13,15,22 23,26,27,35 39,51,56, 57,58,59, 67,70	6	
3.0 L 4.0			

Low Difference
$(d < .62)$

ACTUAL \ IDEAL	1.0 H 2.0	2.0 M 3.0	3.0 L 4.0
1.0 H 2.0	17,31,33, 36,38,44 45,46,47 55,62,63, 64,65,68 71,72		
2.0 M 3.0	3,5,54		
3.0 L 4.0			

Priority 1 Items - High Difference, Below Diagonal

Priority 2 Items - Medium Difference, Below Diagonal

Priority 3 Items - Low Difference, Below Diagonal

Priority 0 Items - On Diagonal

APPENDIX OOO

ITEM PRIORITIZATION BY SKILL GROUPING

PERCENT OF ITEMS IN EACH PRIORITY CLASS: NURSING

APPENDIX OOO.
NURSING

ITEM PRIORITIZATION BY SKILL GROUPING

PERCENT OF ITEMS IN EACH PRIORITY CLASS

Skill Grouping	Priority 1	Priority 2	Priority 3	Priority 0
A	25	50	12	12
B	29	29	0	43
C	28	12	4	56
D	12	35	0	53

APPENDIX P

INTERATER RELIABILITY COEFFICIENTS
MEDICINE, DENTISTRY, AND NURSING

APPENDIX P

INTERATER RELIABILITY COEFFICIENTS

- MEDICINE -

Objective	Priority #1 Items	Priority #2 Items
1.	.89	.58
2.	.75	.86
3.	.46	.82
4.	.86	.88
5.	.74	.43
6.	.84	.79
7.	.82	.67
8.	.70	.76
9.	.71	.94
10.	.80	.02
11.	.57	.54
12.	.71	.72
13.	.61	.64
14.	.89	.71
15.	.81	.39
16.	.71	.82
17.	.71	.70
18.	.76	.64
19.	.42	.80
20.	.85	.96
21.	.88	.78
22.		.73
23.		.89
24.		.77
25.		.92
26.		.68
27.		.83
28.		.89

APPENDIX P

INTERATER RELIABILITY COEFFICIENTS

- DENTISTRY -

Objective	Priority #1 Items	Priority #2 Items
1.	.71	.96
2.	.60	.93
3.	.68	.73
4.	.82	.52
5.	.86	.77
6.	.66	.60
7.	.79	.68
8.	.42	.68
9.	.63	.73
10.	.63	.77
11.	.68	.73
12.	.92	.60
13.	.86	
14.	.60	

APPENDIX P

INTERATER RELIABILITY COEFFICIENTS

- NURSING -

Objective	Priority #1 Items	Priority #2 Items
1.	.92	.68
2.	.73	.67
3.	.80	.83
4.	.86	.80
5.	.60	.79
6.	.80	.88
7.	.79	.86
8.	.75	.88
9.	.71	.88
10.	.81	.87
11.	.92	.92
12.	.92	.88
13.	.86	.85
14.	.86	.73
15.	.82	.82
16.	.81	.37
17.	.94	.68
18.		.89
19.		.81
20.		.84
21.		.79